



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

1313 Sherman Street
Denver, CO 80203

P (303) 866-3441

F (303) 866-4474

Jared Polis, Governor

Dan Gibbs, DNR Executive Director

Rebecca Mitchell, CWCB Director

TO: Colorado Water Conservation Board Members

FROM: Alexander Funk, Program Manager
Alternative Transfer Methods Grant Program (ATM) Interstate, Federal,
and Water Information Section

DATE: March 10th and 11th, 2021

AGENDA ITEM: Consent Agenda Item 4 (a). Alternative Transfer Methods Grant Program,
Colorado River Basin Roundtable, and Trout Unlimited, Evaluating
Conserved Consumptive Use in the Upper Colorado River - Phase II

Staff Recommendation: Staff recommends approval of up to \$150,000 from the Alternative Transfer Methods Grant Program to help fund the "Evaluating Conserved Consumptive Use in the Upper Colorado River - Phase II" project.

Background:

The Colorado Water Plan encourages alternatives to permanent dry-up of irrigated agriculture and utilizes alternative transfer methods (ATMs) to sustain agriculture and rural communities, address public externalities of permanent dry-up, and address multiple water resource challenges. The CWCB's Alternative Water Transfer Methods Grant Program, established in 2007, provides resources to develop and implement ATM projects, including research and demonstration projects. The ATM grant program also provides resources for the "life cycle" costs of ATM projects, including project operations and infrastructure. The ATM grant program's current focus is on implementing projects that will result in or facilitate actual wet-water transfers to support multiple uses, including municipal, industrial, agricultural, environmental, and recreational needs. ATM grants are also available to explore voluntary, temporary, and compensated approaches to groundwater sustainability and interstate compact compliance.

Staff's review of ATM applications involves the following steps:

- 1) Applications are reviewed for completeness based on the information requirements, which are primarily outlined in the ATM Grant Criteria and Guidelines (C&G).
- 2) Applications are reviewed to verify that the water activity meets the eligibility requirements in the C&G.
- 3) Staff then prepares the Water Activity Summary Sheet, which documents the review process's outcome and contains staff's recommendations.

Staff concludes this ATM Grant application is complete. The proposed activity meets the eligibility requirements in the C&G. The Water Activity Summary Sheet, ATM Grant Application, Statement of Work, and Budget and Schedule are attached.

Alternative Water Transfer Methods – Competitive Grant Program
Water Activity Summary Sheet
March 10-11, 2021
Consent Agenda 4(a)

Applicant & Grantee: Colorado River Basin Roundtable, Trout Unlimited (Grantee)

Water Activity Name: Evaluating Conserved Consumptive Use in the Upper Colorado River – Phase II

Water Activity Purpose: Demonstrate the use of alternative transfer methods and the adoption of voluntary, temporary, and compensated agricultural water conservation mechanisms in higher elevation irrigated pasture and grass systems.

Drainage Basin: Colorado

Water Source: Colorado River

Amount Requested: \$150,000

Matching Funds: \$155,500 total match

Staff Recommendation

Staff recommends approval of up to \$150,000 from the Alternative Water Transfer Methods Program to help fund the "Evaluating Conserved Consumptive Use in the Upper Colorado River – Phase II" project.
--

Water Activity Summary: The purpose of the Evaluating Conserved Consumptive Use in the Upper Colorado River Project Phase II Project is to continue exploring issues relating to the potential development of alternative transfer methods and other voluntary, temporary, and compensated agricultural water conservation methods to address regional water resource challenges. Despite the implementation of alternative transfer methods in other portions of the state, few alternative transfer methods have been adopted on the Western Slope, given concerns about potential agronomic impacts to higher elevation irrigated grass pasture and hay production and regional socio-economic impacts. Multiple studies and reports, including previously funded ATM grant projects, have identified a need for additional research studies at high elevation sites to investigate the behavior of irrigated grass pasture and hay production under temporary fallowing or deficit irrigation. Various methods for verifying conserved consumptive use savings also face challenges when assessing historical consumptive use in higher elevations.

Phase II of the project will build on an active ATM demonstration project led by the Colorado River Basin Roundtable ("CBRT"), Trout Unlimited, American Rivers, the Nature Conservancy, Colorado State University, and ten local agricultural producers in the vicinity of Kremmling, Colorado. In Phase I of the study, full season or split-season irrigation reduction treatments were applied to over 1,000 acres of irrigated pasture and 200 acres of reference fields. Instruments were installed in both treated and reference fields, and soil and forage samples were taken to begin assessing actual water savings and potential agronomic impacts such as forage quality and yield from the application of irrigation reduction treatments. The project also assesses potential wildlife habitat impacts from changes in irrigation practices and evaluates ranch enterprise budgets to understand regional

economic impacts better. Altogether, the project will provide critical information to producers to make informed decisions about participating in ATM programming.

Phase II builds on the initial phase, focusing on measuring water savings and longer-term agronomic impacts such as field recovery. The project team will assess these long-term impacts by collecting monthly forage samples for all project fields to analyze yield and forage quality (i.e. nutritional value) and evaluate the development of weeds and pests. The project team will also implement best soil health practices on a small portion of the fields to assess soil health practice's potential to improve field recovery following reduced irrigation. Additional tasks include ongoing evaluation of remote sensing-based models to measure evaporative transpiration (ET), ground-truthing those ET models, and assessing applications of Colorado Division of Water Resources tools such as the Lease Following Tool (LFT) to model consumptive use and return flow characteristics.

Discussion: Staff supports the application based on the following considerations: the project will collect information regarding an identified data gap related to the agronomic impacts of temporary water conservation mechanisms on higher elevation irrigated grass pasture and hay production; assess the applicability of various methods to measure conserved consumptive use at higher elevations; develop strategies for determining compensation for producers involved in alternative transfer methods; build on research completed through previous CWCB ATM funded projects; promote the use of voluntary, alternative transfer methods on the Western Slope; the project will help meet the Colorado River Basin Implementation Plan's goal of managing water to sustain an optimal agricultural economy while meeting growing water demands; this effort will further Colorado's Water Plan's Measurable Objectives and Critical Goals and Actions concerning ATMs.

Issues/Additional Needs: None at this time.

CWCB Project Manager: Alexander Funk



COLORADO WATER CONSERVATION BOARD



ALTERNATIVE AGRICULTURAL WATER TRANSFER METHODS COMPETITIVE GRANT PROGRAM

GRANT APPLICATION FORM

Evaluating Conserved Consumptive Use in the Upper Colorado River - Phase II

Program/Project Name

River Basin Name

\$150,000

\$155,500

Amount of Funds Requested

Amount of Matching Funds

Instructions: This application form must be submitted in electronic format (Microsoft Word or Original PDF). The application can be emailed or a disc can be mailed to the address at the end of the application form. The Alternative Agricultural Water Transfer Methods Competitive Grant Program, Criteria and Guidelines can be found at <http://cwcb.state.co.us/LoansGrants/alternative-agricultural-water-transfer-methods-grants/Pages/main.aspx>. **The criteria and guidelines must be reviewed and followed when completing this application.** You may attach additional sheets as necessary to fully answer any question, or to provide additional information that you feel would be helpful in evaluating this application. Include with your application a cover letter summarizing your request for a grant. If you have difficulty with any part of the application, contact Craig Godbout of the Water Supply Planning Section (Colorado Water Conservation Board) for assistance, at (303) 866-3441 x3210 or email at craig.godbout@state.co.us. Generally, the applicant is also the prospective owner and sponsor of the proposed program/project. If this is not the case, contact Craig before completing this application.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

Part A. - Description of the Applicant(s) (Program/Project Sponsor);

1. Applicant Name(s):
Contact: Kirsten Kurath

Mailing address:

Taxpayer ID#: Email address:

Phone Numbers: Business:
Home:
Fax:

2. Person to contact regarding this application if different from above:

Name:

Position/Title:

3. If the Contracting Entity is different then the Applicant, please describe the Contracting Entity here.

Trout Unlimited (TU), represented by Mely Whiting, will be the Contracting Entity.

4. Provide a brief description of your organization. The applicant may be a public or private entity. Given the diverse range of potential applicants, not all of the following information may be relevant. Where applicable and relevant the description should include the following:

- a) Type of organization, official name, the year formed, and the statutes under which the entity was formed, a contact person and that person's position or title, address and phone number. For private entities, a copy of the Articles of Incorporation and By-laws should be appended to the application.

The Colorado Basin Roundtable (CBRT) is a group of water managers and stakeholders charged with water planning for the main-stem Colorado River Basin within Colorado. It is one of nine basin roundtables in Colorado created by the state legislature in 2005 in the Water for the 21st Century Act. In 2015, as part of a statewide initiative to develop the Colorado State Water Plan, the Colorado Basin Roundtable completed its own Basin Implementation Plan to address water needs within the basin. The basin roundtable also allocates grant funding to address the region's water challenges. Our members include people from agriculture, domestic water

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

providers, environmental and recreation entities, and interested citizens. Our goals are to protect, conserve and develop water supplies within the Colorado Basin and the Western Slope of Colorado for future needs.

The CBRT has identified its priorities as 1) addressing shortages in the headwaters area; 2) looking at the impacts of transbasin firming projects; 3) looking at compact delivery impacts to existing and future in-basin water rights; 4) ensuring endangered species' needs do not negatively impact future in-basin needs; 5) identifying non-consumptive needs for environmental and recreational flow; and 6) ensuring adequate water supply for future municipal, industrial, agricultural, environmental and recreational needs. The project aligns very well with these basin wide priorities.

The CBRT contact person for this grant is Kirsten M. Kurath, Williams, Turner & Holmes, PC, 744 Horizon Court, Suite 115, Grand Junction, Colorado, 81506, 970-242-6262, CBRT Demand Management Workgroup Chair. A copy of the CBRT Bylaws is attached.

Trout Unlimited, Inc. is a 501(c)(3) non-profit organization incorporated in Lansing, Michigan on September 22, 1959. The contact person for this grant is Amelia (Mely) Whiting, Legal Counsel, Colorado Water Project, P.O. Box 1544, Pagosa Springs, CO 81147, mwhiting@tu.org, (720) 470-4758). A copy of TU's Articles of Incorporation and Bylaws are attached to this application.

- b) For waters suppliers, information regarding the number of customers, taps, service area, and current water usage, and future growth plans, water related facilities owned or used, funding/revenue sources (existing service charges, tap fees, share assessments, etc.), the number of members or shareholders and shares of stock outstanding or a description of other means of ownership.**

N/A

- c) For other entities, background, organizational size, staffing and budget, and funding related to water that is relevant in determining whether the applicant has the ability to accomplish the program/project for which funding is sought.**

The CBRT currently has no administrative staff and is managed by Jason Turner, Chair, and Paul Bruchez, Vice Chair. The CBRT has teamed with Trout Unlimited, Inc., which has agreed to be the contracting entity for the grant and to provide administrative assistance at no cost to the project.

TU currently has approximately 223 staff working in 35 offices from Alaska to North Carolina. The vast majority of TU's employees are professional conservationists that oversee watershed restoration projects, organize hunters and anglers to advocate for improved public lands management, work to systematically improve state water policy to benefit rivers and fish, or promote youth education programs. TU's 33-member board meets 3 times a year, and major committees meet quarterly.

TU is a membership organization with approximately 158,000 grassroots members organized in 385 local chapters across the country. There are approximately 12,000 members in Colorado. TU's members are community leaders, professionals, and business owners, and are among the most effective and articulate grassroots advocates for protecting our important watersheds and landscapes.

A copy of TU's latest budget statement is attached.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

d) A brief history of the Applicant(s).

See above for a discussion of the history of the CBRT.

Trout Unlimited: TU was founded in 1959 in Grayling, Michigan on the banks of the Au Sable River by a group of anglers who successfully sought to change the state's reliance on hatchery production of trout into a program that focused on protecting and restoring fish habitat. From the beginning, TU was guided by the principle that if we "take care of the fish, then the fishing will take care of itself." Today, TU is the nation's largest grassroots coldwater conservation organization with a mission to conserve, protect and restore North America's trout and salmon fisheries and their watersheds. TU works to achieve this mission on a local, state and national level through an extensive volunteer network and dedicated staff.

e) Please include any relevant Labor issues relating to the funding request that may affect the Contracting Entity.

N/A

Part B. - Description of the Alternative Water Transfer Program/Project –

1. Purpose of the Program/Project

Please provide a summary of the proposed program/project, including a statement of what the program/project is intended to accomplish, the need for the program/project, the problems and opportunities to be addressed, the expectations of the applicant(s), and why the program/project is important to the applicant(s). The summary must include a description of the technical, institutional (i.e., how the program/project will be organized and operated), and legal elements that will and/or have been addressed by the applicant and proposed program/project. The summary should also discuss relevant project history, if applicable, and any other relevant issues.

Previous Studies: To the maximum extent possible, the results of any previous studies and investigation should be utilized and incorporated into the proposed program/project. The application for funding should include a brief summary of the results of previous studies and how they will be utilized.

PROJECT GOALS

There is significant interest from local water users in the Upper Colorado in further exploring the question of whether Colorado should have a demand management program through on the ground, research-based field work. Through this proposed project, we will continue to work with local water users to address key feasibility questions related to temporary reductions in agricultural water use, including: (1) best practices for reducing irrigation on perennial irrigated pastures; (2) estimating and verifying actual water savings from those associated practices, and; (3) working with ag producers to identify multi-year strategies to create conserved consumptive use while maintaining viable agricultural operations.

In Phase 1 of this study, full season or split season irrigation reduction treatments were applied to over 1000 acres of irrigated pastures near Kremmling, and near 200 acres were established as reference fields for comparison purposes. Instruments were installed in both treated and reference fields and soil and forage samples taken to begin assessing actual water savings and potential impacts from the application of irrigation reduction treatments.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

Phase 2 of the study, the subject of this application, directly builds on Phase I by measuring water savings and impacts over the period of 4 years, the time period experts estimate the fields are likely to normalize... Beginning in 2021, the treatments will be returned to normal irrigation and we will evaluate recovery through the 2023 irrigation season. This overall research project is a direct outcome of other past work, feasibility assessments, field studies, and small-scale pilot projects, which are described in more detail below.

PROJECT NEED

The Colorado River Basin supplies water to seven U.S. states and the Republic of Mexico. The Basin provides domestic water supplies to 40 million people and irrigates more than five million acres of agricultural lands. It also fuels a multi-billion-dollar recreational economy and supports diverse wildlife and fish found nowhere else in the world. However, the Basin has experienced a severe drought since the late 1990s. While the region has had some wet years, the trend has been one of declining water supplies.

Over the past several years, multiple efforts have investigated how tools to reduce water use on a voluntary, temporary, and compensated basis can play a role in tackling these challenges. In that context, many questions have arisen with respect to the efficacy and risks associated with these practices. The continuation of the Upper Colorado Project outlined in this grant supports the goals of both the State Water Plan and the CBRT BIP by exploring these questions in high altitude pastures. ATMs on the Western Slope can also create mechanisms that will support the productive agriculture that is so important to this region's economy. This project will continue evaluating the ATM concept at scale, fill in critical data gaps identified in various studies, and provide information that is essential to determining whether ATMs can work on the Western Slope to address the CBRT BIP priority concerns.

PROBLEMS & OPPORTUNITIES TO BE ADDRESSED

The primary opportunity to address right now is the ability to continue our field-based research work with willing water users, University and NGO partners, consultants, and the State to address multiple feasibility questions for temporary water conservation that are important to the CBRT and other stakeholders. More specifically, the project will continue to address the following priority issues for the CBRT:

- Supporting Productive Agriculture:

A potential mechanism involving the voluntary, temporary, and compensated reduction in consumptive use has to support existing and future productive agriculture and not unfairly impact rural communities, which means, among other things, not removing water permanently from the land. Avoiding permanent "buy and dry" is of paramount importance in the Colorado River basin.

- Exploring Compensation:

A "one price fits all" compensation plan will not work, but the question of compensation may be resolved under free market principles.

- Providing multiple benefits:

There can be ancillary benefits to alternative transfer methods and voluntary water conservation mechanisms that we should not lose sight of and which may play a role in implementation and funding decisions.

- Addressing technical questions:

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

Work needs to be done to address measurement, calculation methodologies and verification and the collection of data based upon spatial variability and elevation differences. More research into deficit irrigation and potential “alternative” crops may lead to solutions for some of the issues associated with the adoption of voluntary, temporary, and compensated agricultural water conservation measures in response to regional water challenges.

APPLICANT EXPECTATIONS

The CBRT expects to work closely with our partners to continue this research, using this work on the ground to explore questions of importance to our agricultural community and other members. The CBRT will continue to share this work with and receive input from the CWCB, other roundtables, and other stakeholders invested in exploring alternative water conservation approaches, as we believe the work will be valuable in informing their efforts.

PROJECT IMPORTANCE

The CBRT is committed to being proactive in exploring the challenging issues related to water use in the Colorado River Basin and potential solutions. This project provides an important opportunity to bring local leadership, agricultural expertise, and field research together to help focus and advance the conversation on agricultural water conservation.

TECHNICAL & INSTITUTIONAL ELEMENTS

This multi-year project is evaluating and providing important data on these technical and institutional elements:

- Developing options for producer participation in reducing water use.
- Evaluating methods for estimating and verifying actual reductions in consumptive use and comparing estimates across multiple models.
- Evaluating the impacts of reduced irrigation on yield, forage quality, and species composition over multiple years in high elevation perennial crops.
- Determining whether certain agricultural practices can help improve field recovery following reduced irrigation.
- Assessing economic enterprise budgets that compare normal operations with participation in a water conservation program. This information will help inform the cost for any such program as well as how producers can incorporate payments for reduced water use in long term planning for their operations.

PREVIOUS STUDIES

Phase 2 of this study builds directly from the work in Phase 1, the results of which will be outlined in a summary report that will be delivered to the CWCB in March 2021. The project also advances a growing body of work to assess the issues and opportunities related to temporary ag water conservation. Below we summarize a selection of reports from that body of work that is relevant to this project:

A. Colorado Water Bank Feasibility Study, Phase II

This study explored if and how a water bank could work with the number of different irrigation systems on the West Slope. For Phase II of the Feasibility Study, the Colorado River Water Bank Work Group (WBWG) partnered with eight different irrigation systems on the West Slope to better understand the range of how water is used and managed. This included irrigation systems of different sizes, in different river basins, and at different elevations. It also included a range of management and ownership structures, from simple systems owned and operated by a small number of individuals, to more complex private ditch companies, to large Federal and Tribal projects. The study concluded generally that each system saw different opportunities and challenges to participating in a water bank. The study was extremely helpful in uncovering the large number of technical, legal, economic, and social

questions that would need to be addressed for a water bank to become operational.

B. Agronomic Responses of Grass and Alfalfa Hayfields to No and Partial Season Irrigation

At the same time the WBWG was investigating how a water bank could work with the various irrigation systems on the West Slope, additional questions and concerns were raised about impacts to individual farm and ranch operations. Producers interested in participating needed information on how reduced irrigation would impact crops and how long it would take those crops to recover once full irrigation was restored. To address this, the WBWG partnered with Colorado State University (CSU) on a three-year study to evaluate the agronomic impacts of fallowing and split season irrigation. The study took place on seven different sites on the West Slope that included both grass and alfalfa fields. The study compared reduced irrigation and normal irrigation side by side and took measurements of yield and forage quality, as well as basic estimates of water use. The study helped quantify the reductions in yield expected with reduced irrigation and provided critical info on how well and how long it takes fields to recover. Like the Phase II report, it also raised a number of additional questions and the WBWG chose to continue working with CSU on a longer-term, larger scale field study that is described below.

C. Water Bank Phase IIC: Agronomic Impacts and Measurements of Water Savings

Similar to the previous study, this expanded study also involved a side by side comparison of a number of different reduced irrigation practices with normal irrigation. It also included a number of the same agronomic variables, including yield and forage quality. The study also assessed issues with recovery and management factors such as weed pressure and impacts to soil moisture. This study conducted an in-depth measurement of water savings using a number of different methods. Each field was instrumented to measure a full water budget: water delivered and applied, surface runoff, soil moisture at three different depths, and influence from groundwater, if any. Each study site also has, or is in close proximity to, a full weather station allowing for robust calculations of water use. This is a highly accurate, but costly way to measure water savings. In order to address the question of how to scale up, CSU also used remote sensing data to calculate water use and water savings.

D. System Conservation Pilot Program projects

With concerns growing among water managers about declining reservoir levels in Lakes Powell and Mead, the four major municipal water providers in the Colorado River Basin partnered with the Bureau of Reclamation to implement a four-year pilot program to test emergency measures to reduce water use. The SSCP ran from 2015-2018 and completed multiple projects in each Upper Basin state. These pilots were valuable for confirming that producers can find ways to reduce water use temporarily in ways that work for their operation. The pilots also highlighted a number of challenges, including: How do you determine a fair price for both parties? How do you have a simple and transparent method for estimating and confirming water savings? How do we build a program that is large enough to address the scale of the problem? How do we administer and shepherd conserved consumptive use water within State law?

E. Research Synthesis: Agronomic Impacts of Reduction Irrigation

This report reviews research on fallowing and limited irrigation to highlight key findings related to agronomic impacts of limited irrigation or other methods to reduce consumptive use of irrigation water in the Upper Colorado River Basin. The concluding section also identifies remaining research questions and suggests potential implications and possible next steps for a demand management program. The appendix summarizes the parameters of several of the studies reviewed.

F. Colorado River Basin Roundtable Demand Management Workgroup Discussion Points

The Colorado Basin Roundtable formed a demand management workgroup at the end of January 2019. This document summarizes the issues, questions, concerns and principles the CBRT feels should be part of the demand management conversation. A copy of this document is attached to the grant application.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

2. Study Area/Service Area Description

The study area/service area is generally the geographic area that is the subject of the proposed program/project (include both the source of supply and location and type of new use). The description should include the following items:

- a) **A narrative description of the study area/service area including: the county, the location of towns or cities, topography, and locations of major surface and ground water features.**

The project is located in Grand County, Colorado near Kremmling and Parshall, Colorado. Approximately half of the research fields in the project (608 acres) are located to the north of Kremmling up the Muddy Creek drainage and its tributaries. Most of the water rights to this location are on tributaries of Muddy Creek with direct diversion rights and storage rights including three different storage facilities. Two other research fields (307 acres) are within three miles of Kremmling on the mainstem of the Colorado River and located within the riparian corridor of the Colorado River. One additional research field (235 acres) is located at a higher elevation to the south of Kremmling and Parshall up the William’s Fork Valley on one of its tributaries.

- b) **An area map showing each of the items above, as well as the locations of existing facilities, proposed project facilities and boundaries of lands involved in the proposed program/project.**

Attached.

- c) **Information regarding the irrigated lands that are involved in the program/project. This must include a tabulation of total irrigated acreage, description of cropping types, crop yields, and total average annual water diversions for existing agricultural lands.**

Muddy Creek Project Fields: 608 irrigated acres with an average yield of slightly over 2.5 tons grass/hay mix per acre on mechanically harvested portions of irrigated ground.

Main-Stem Colorado River Project Fields: 307 irrigated acres with an average yield of slightly over 2.5 tons of grass/hay mix per acre on mechanically harvested portions of irrigated land.

Williams Fork Tributary Project Fields: 235 irrigated acres with an average yield of slightly over 2 tons of grass/hay mix per acre on mechanically harvested portions of irrigated land.

Diversions associated with these lands/areas have been documented by the Division of Water Resources and have legitimate water rights. Additional details for the research fields is provided in the table below.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

Field Name	Water Conservation Activity	Acres	Signed Contract?	Research Instrumentation*
T1 SPR 2020	Full Season	213.1	Yes	H/L Enclosure, SMS, GW, NP
T1 SBR 2020	Full Season	77.2	Yes	H/L Enclosure, SMS, GW, NP
T1 GPR 2020	Full Season	210.4	Yes	H/L Enclosure, SMS, GW, NP, EC
T2 GPR 2020	Full Season	337.8	Yes	H/L Enclosure, SMS, GW, NP
T1 BJM 2020	Full Season	31.7	Yes	None
T1 JLM 2020	Full Season	15.8	Yes	None
T1 SBT 2020	Full Season	9.12	Yes	None
T1 HSR 2020	Full Season	88.5	Yes	None
T1 RCR 2020	Split Season	34.5	Yes	H/L Enclosure, SMS
T1 RSR 2020	Split Season	124.2	Yes	H/L Enclosure, SMS, GW, NP
	Sub-Total	1142.32		

* H/L Enclosure = High/Low Forage Productivity Enclosure, SMS = Soil moisture sensors, GW = Groundwater observation well, NP = Neutron probe access, EC = Eddy covariance tower

d) Information regarding the location of the new water use(s) that will be served by transferred water including the estimated number of users/taps and/or uses served.

This project has the capability of providing additional water to the Colorado River and all that rely on it. More information about specific use/supply will be determined by the research team working on analysis of conserved consumptive use.

e) Socio-economic characteristics of the area such as population, employment and land use.

Kremmling Colorado has a population of approximately 1500 people. The economy is largely impacted from agriculture and recreation-based activities including fishing, hunting, and Colorado River based boating activities from Gore Canyon down river.

3. Description of the Alternative Water Transfer Method

Please describe the type(s) of water transfers that will be examined/ utilized (i.e., conceived transfer methods include, but are not limited to: 1) interruptible water supply agreements; 2) long-term agricultural land fallowing; 3) water banks; 4) reduced consumptive use through efficiency or cropping changes while maintaining historic return flows; and 5) purchase by end users with leaseback under defined conditions). In addition, please describe how the transferable consumptive use will be calculated and quantified, and how return flow patterns will be addressed/maintained.

The primary purpose of this project is to continue field research evaluating multiple aspects of ag water conservation. However, we will continue to work with the State and other partners to explore how this project can inform the potential use of alternative transfer methods to address Upper Colorado River Basin regional water priorities.

4. Program/Project Eligibility

Please describe how the proposed program/project meets each of the following eligibility requirements (please see Criteria and Guidelines for additional information regarding the alternative water transfer methods/strategies that qualify for funding). Note: If these requirements are addressed in other parts of the application you may simply reference the applicable section(s).

- a) **A description of how, if implemented, the proposed program/project will protect property and water rights.**

Individual property rights will be protected by continuing to work with willing participants under our existing contracts. Participants have also successfully enrolled their water rights participating in this project in the Colorado River Water Conservation District's Conservation Program, which includes various safeguards to protect the participants' water rights and prevent injury to others. C.R.S. § 37-92-103(2) provides that no intent to discontinue permanent use shall be found for purposes of determining an abandonment of a water right for the duration of the period that nonuse of a water right by its owner is a result of participation in a water conservation program approved by a water conservation district. Participants will also be protected by C.R.S. 37-92-305 (3)(c), which directs the water judge to NOT consider any decrease in water use or nonuse of water resulting from an approved water conservation program. The Colorado River Water Conservation District's Conservation Program is an approved program for purposes of these statutory protections.

- b) **Identified group(s) of agricultural users that are or may be willing to transfer a portion of their water and identified entity(s), group(s) or area(s) where the transferred water could or would be put to the new use and a description of the new use.**

The agricultural users participating in this project understand the purpose and intent of the field research and have an existing contract with Trout Unlimited for the duration of the project (i.e., through 2023). The producers involved have experience that will be critical to the feasibility analysis of conserved consumptive use in the Colorado River Basin and have previously demonstrated compliance on grants and partnership with the Colorado Basin Roundtable, the Colorado Water Conservation Board and Trout Unlimited.

- c) **The program/project must at a minimum conceptually describe the technical, institutional, and legal elements of the water transfer. Grant monies may be used to address one or more of these elements. If grant monies are not requested for all three elements, the grant applicant must describe how the applicant has or intends to address the elements, which are not included in the grant request, through other efforts.**

TECHNICAL/INSTITUTIONAL

- Comparing multiple methods for estimating and verifying HCU and actual CCU.
- Using an enterprise budget approach to better understand economics of water conservation, including compensation for participants and program costs.
- Evaluating impact and recovery of forage yield and quality on perennial grass pastures.

- d) **If grant monies are proposed for use for legal assistance then the use of those funds shall be oriented toward advancing the knowledge of alternative agricultural water transfer methods and techniques; not for preparation of a specific water court case. The total requested funds for legal assistance shall not exceed 40 percent of the total grant request. In addition, grant monies proposed for use for legal assistance must be used to collaboratively address issues and concerns related to agricultural**

water transfer. Funds shall not be used to solely advance the cause of the project proponents.

N/A

- e) **A minimum of a 10 percent cash match of total project cost (past expenditures and “in kind” can not be counted toward the 10 percent match).**

Project partners anticipate contributing significant match for the project and have currently secured a 51% cash match for the project with additional requests pending. Project partners will provide CWCB staff with additional letters of financial commitment following submission of this proposal.

5. Program/Project Evaluation Criteria

The following grant evaluation criteria will be used by the CWCB to evaluate and make recommendations to fund, partially fund or not fund a grant application. The criteria are aimed at advancing alternative transfer methods from the literature and studies to actual on the ground projects/programs that provide reliable water supply and sustain key elements of the agricultural area from which the water is transferred. The applicant should fully address and explain in detail in the application how, and the extent to which, the proposed project/program meets each of the criteria. However, it should be noted that the project does not have to meet all of the criteria to be eligible to receive funding and the criteria below are not listed in any order of important or priority.

- a. **The proposed project/program builds upon the work of former alternative water transfer methods efforts and addresses key areas that have been identified. For more detailed information on this work, please refer to the draft report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.**

Phase 2 of this project continues to build directly from the past feasibility studies and field research completed by the Colorado Water Bank Work Group, the lessons learned described in the final report for the System Conservation Pilot Program, and the work of the Colorado Water Conservation Board’s Demand Management Workgroups. This includes issues such as measuring and verifying actual conserved consumptive use and understanding how reductions in water use can work in higher elevation irrigated meadows, and specifically those that support cattle operations.

- b. **The proposed project addresses one or more key recommendation(s) in the report: *Alternative Agricultural Water Transfer Methods Grant Program Summary and Status Update*, November 2012.**

This project also directly advances the three primary recommendations from the referenced report for the West Slope and will evaluate mechanisms for Western Slope agriculture to intentionally reduce consumptive use in a voluntary, temporary, and compensated manner and the risks associated with providing temporary sources of water for enhancing environmental flows and for municipal uses in times of shortages, and to do so in a way that works for agricultural producers and water managers.

- c. **Preference will be given to projects that provide additional matching resources in the form of cash, past expenditures and in-kind contributions that are in addition to the required 10% cash match.**

Project partners have invested significant time on the project to date and anticipate providing up to 50% cash match and additional in-kind contributions in staff time.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

- d. The proposed project/program has the ability/potential to produce a reliable water supply that can be administered by the State of Colorado, Division of Water Resources.**

This project will develop information that will assist in evaluating the potential to produce a reliable water supply to address Colorado River issues that can be administered by the State.

The project will advance data and science relative to conserved consumptive use on perennial crops at a high elevation that will be innovative information. All activities of water supply will be coordinated with the Division of Water Resources and the Colorado Water Conservation Board to advance science.

- e. The proposed project/program produces information that is transferable and transparent to other users and other areas of the state (i.e., would provide an example “template” or roadmap to others wishing to explore alternate transfer methods).**

Yes, and one of the primary goals of the project is to provide a transferrable approach to other geographies and relevant research information to the CBRT and the State. This will include both the research itself as well as the importance of having agricultural leadership and engaging multiple partners in developing a successful project.

- f. The proposed project/program addresses key water needs identified in SWSI 2010 or as identified in a basin’s needs assessment.**

Yes, this project will provide critical information that will inform the application of temporary water conservation activities on the Western Slope to address state and basin wide water needs in ways that sustain productive agriculture.

- g. The proposed project/program advances the preservation of high value agricultural lands. Value can be viewed as: the value of crops produced, the value the agriculture provides to the local community, and the value the agricultural area provides for open space and wildlife habitat.**

The project includes producers that have generations of experience on the land associated with the project. These lands all include productive agriculture and areas of open space and wildlife habitat including a conservation easement held by Colorado Parks and Wildlife. The research fields and agricultural partners participating in this project address all the value issues listed above, and more, in our effort to better understanding conserved consumptive use at higher elevations in Colorado.

- h. The proposed project/program addresses water quality, or provides other environmental benefits to rivers, streams and wetlands.**

The proposed project will attempt to measure net changes in stream flow due to application of split and full season irrigation reduction practices and will evaluate impacts to stream temperature, as well as river flows.

- i. The proposed project/program increases our understanding of and quantifies program/project costs. This could include: institutional, legal, technical costs, and third party impacts.**

Yes, this project will advance our understanding of the costs associated with implementing voluntary, temporary, and compensated water conservation activities at scale. These costs include compensation to

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

participants, as well as any other costs associated with implementing activities on the ground. The focus is on addressing institutional and technical costs, as well as evaluating success of the program and assessing any third party or community impacts. Information learned from the project will be shared with relevant stakeholders including the CWCB and Basin Roundtables where appropriate.

- j. The proposed project/program does not adversely affect access to other sources of water (not subject to/participating in the program) where owners of these water rights may wish to pursue traditional transfer of their rights to other users.**

The proposed project does not negatively affect any other sources of water or preclude any other water right holder from fully exercising their rights under Colorado law.

- k. The proposed project/program provides a perpetual water supply for the new and/or alternate use and preserves agricultural production and/or helps sustain the area's economy from which the transfer is occurring.**

The objective of the project is to assess various issues regarding the potential for temporary, voluntary, and compensated approaches to water conservation to increase water security and meet other regional water demands. This approach includes preserving agricultural production and supporting associated economies. As a limited scope and duration research project however, it will only provide a temporary water supply, but it will answer many of the necessary questions identified in previous studies and reports. The project includes participation from producers that understand the potential of water scarcity into the future. The producers involved are large stakeholders to the local economy and understand the impact of the proposed project. The local community is supportive of the project to sustain its economy and understand the science relative to the project and its impacts to the community.

- l. The quantity of water produced by the proposed project/program. Preference will be given to programs that can address larger water supply needs.**

We estimate that Phase 1 of the project provided up to an estimated 1,660 AF of water savings in 2020, with the potential for larger amounts in the future. As currently scoped, requested funding for Phase 2 will not be used to intentionally create any additional water savings but will focus on the critical questions of recovery in order to understand the longer term potential of water conservation activities to address local and regional needs. This project includes community leaders' participation and the entire community will be watching with potential participation in the future.

- m. Applicants are encouraged to develop projects demonstrating participation and/or support from a diverse set of stakeholders and interests.**

This project is already supported by: The Colorado Basin Roundtable, Trout Unlimited, The Nature Conservancy, American Rivers and the agricultural producers of Grand County. The project proponents continue to communicate regularly with the Colorado River District, Denver Water, Northern Water, Colorado Parks and Wildlife, and Grand County about the project with the goal of ensuring additional support.

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

6. Statement of Work

Provide the proposed statement of work. On the following page there is an example format for the statement of work. You can use the example format or your own format, provided that comparable information is included. The statement of work should outline by task how the proposed program/project will be accomplished. It is important that the statement of work detail the specific steps, activities/procedures that will be followed to accomplish each individual task and the overall program/project and the specific products/deliverables that will be accomplished. The statement of work must include but not be limited to: task description, key personnel, budget, schedule and deliverables and the final report/project documentation upon completion of the water activity.

The statement of work will form the basis for the contract between the Applicant and the State of Colorado. In short, the Applicant is agreeing to undertake the work for the compensation outlined in the statement of work and budget, and in return, the State of Colorado is receiving the deliverables/products specified. Please note that costs incurred prior to execution of a contract or purchase order are not subject to reimbursement.

Please provide a detailed statement of work using the following template. Additional sections or modifications may be included as necessary. Please define all acronyms. If a grant is awarded an independent statement of work document will be required with correct page numbers.

See attached for a detailed Statement of Work, including Tasks and Deliverables.

REPORTING AND FINAL DELIVERABLE

Reporting: The applicant shall provide the CWCB reports as required by the grant contract. At a minimum, a progress report will be provided every 6 months, beginning from the date of the executed contract. The progress report shall describe the completion or partial completion of the tasks identified in the statement of work including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Deliverable: At completion of the project, the applicant shall provide the CWCB a final report that summarizes the project and documents how the project was completed. This report may contain photographs, summaries of meetings and engineering reports/designs.

Exhibit B: Budget, Upper Colorado Project		YEAR			TOTAL	TASKS	NOTES
		2021	2022	2023			
CSU	Perry Cabot	\$ 1,530	\$ 1,561	\$ 1,592	\$ 4,682	All	Principal Researcher: Coordination with CSU, USU and DRI; oversee in field data collection and data processing for in field water balance.
	Joe Brummer	\$ 5,871	\$ 5,989	\$ 6,109	\$ 17,969	6, 8, 9, and 11	Forage focus: Data processing and analysis of forage samples
	Jenny Beiermann	\$ 2,517	\$ 2,567	\$ 2,619	\$ 7,703	10	Economics focus: Prepare and analyze ranch enterprise budgets, compare economics of compensated water conservation with business as usual
	Cordelia Anderson	\$ 6,603	\$ 1,321	\$ 1,321	\$ 9,245	4, 6, and 9	Project support: Post processing of physical forage samples, compile soil moisture data (QA/QC), troubleshoot in field equipment
	Fringe Benefits (27.1%) - Faculty	\$ 2,688	\$ 2,742	\$ 2,796	\$ 8,226		
	Fringe Benefits (27.4%) - Anderson	\$ 736	\$ 751	\$ 766	\$ 2,254		
	Travel	\$ 1,000	\$ 1,000	\$ 1,000	\$ 3,000		
	Postage and Shipping	\$ 100	\$ 100	\$ 100	\$ 300		
	IDC (15%)	\$ 2,643	\$ 1,881	\$ 1,911	\$ 6,435		
	Summer Intern	\$ 6,339	\$ 5,943	\$ 7,924	\$ 20,206	4, 6, and 9	Project support: Field data collection and data processing
CSU Sub-Total	\$ 30,028	\$ 23,854	\$ 26,137	\$ 80,019			
USU	Torres	\$ 7,032	\$ 7,243	\$ 5,329	\$ 19,604	1, 5, 8, and 11	Remote-sensing focus: Advisory role to support model-intercomparison; guiding model usage (i.e., why some models are better than others, relating biophysical variables to ET results). Works w/ DRI on processing data, providing ET estimates. USBR partnership.
	Hipps	\$ 4,688	\$ 4,829	\$ 4,145	\$ 13,662	2, 5, and 11	Eddy covariance tower data processing, data QA/QC, coordination with DRI on model-intercomparison
	Schroeder	\$ 12,534	\$ 12,910	\$ 13,297	\$ 38,741	2	Eddy covariance tower operations and maintenance
	Fringe Benefits (45.5%)	\$ 12,280	\$ 12,785	\$ 13,308	\$ 38,373		
	IDC (15%)	\$ 3,961	\$ 4,080	\$ 4,203	\$ 12,244		
	Travel	\$ 3,500	\$ 3,500	\$ 3,500	\$ 10,500		
	USU Sub-Total	\$ 43,996	\$ 45,347	\$ 43,782	\$ 133,125		
DRI	Huntington	\$ 7,535	\$ 7,912	\$ 8,307	\$ 23,754	1, 5, and 11	Principal Researcher at DRI: Connect project with OpenET, data QA/QC, coordinate with CSU and USU, support inter-comparison evaluation of model results, provide context and considerations for interpreting data, stakeholder engagement
	Bromley	\$ 12,083	\$ 9,515	\$ 13,322	\$ 34,920	1, 5, and 11	Remote-sensing focus: Work with USU on processing data, providing ET estimates for project and adjusting for local climatic condition.
	Volk	\$ 2,098	\$ 2,203	\$ 2,026	\$ 6,327	5	Statistical analysis: Inter-comparison of model results, providing context & considerations with USU for presenting and interpreting results.
	DRI/OpenET Sub-Total	\$ 21,716	\$ 19,630	\$ 23,655	\$ 65,001		
Equipment & Materials	Repairs/replacements	\$ 500	\$ 500	\$ 500	\$ 1,500	2 and 4	
	Eddy covariance calibration	\$ 500	\$ 500	\$ 500	\$ 1,500	2	
	Soil moisture sensors	\$ 4,000	\$ 1,000	\$ 1,000	\$ 6,000	4	
	Groundwater observation wells	\$ 800	\$ 100	\$ 100	\$ 1,000	4	
	Forage lab analysis (recovery)	\$ 3,500	\$ 3,500	\$ 3,500	\$ 10,500	6	
	Lab analysis - soils	\$ 1,260	\$ 1,260	\$ 1,260	\$ 3,780	8	
	Soil health amendments	\$ 3,000	\$ -	\$ -	\$ 3,000	15 9	
	Equipment & Materials Sub-Total	\$ 13,560	\$ 6,860	\$ 6,860	\$ 27,280		
TOTAL FUNDING		\$ 109,300	\$ 95,691	\$ 100,434	\$ 305,424		

Alternative Agricultural Water Transfer Methods – Grant Application Form

October 2010

PROJECT SCHEDULE

TASKS	2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Task 1: Provide ET estimates using remote sensing based models												
Task 2: Provide ET estimates using an in-field eddy covariance tower												
Task 3: Application of Colorado Decision Support System												
Task 4: Provide ET estimates from in-field data collection												
Task 5: Model comparison and analysis												
Task 6: Forage sampling and analysis												
Task 7: Species identification												
Task 8: Crop production functions												
Task 9: Evaluate impacts of soil health practices on field recovery												
Task 10: Complete enterprise budgets												
Task 11: Outreach & Education												

PAYMENT

Payment will be made based on actual expenditures and invoicing by the applicant. Invoices from any other entity (i.e. subcontractors) cannot be processed by the State. The request for payment must include a description of the work accomplished by major task, and estimate of the percent completion for individual tasks and the entire water activity in relation to the percentage of budget spent, identification of any major issues and proposed or implemented corrective actions. The last 5 percent of the entire water activity budget will be withheld until final project/water activity documentation is completed. All products, data and information developed as a result of this grant must be provided to the CWCB in hard copy and electronic format as part of the project documentation. This information will in turn be made widely available to the public and help promote the development of alternative agricultural transfer methods.

Additional Information – If you would like to add any additional pertinent information please feel free to do so here.

The above statements are true to the best of my knowledge:



Signature of Applicant:

Print Applicant's Name: Scott Yates, Director, Western Water and Habitat Program

Project Title: Evaluating Conserved Consumptive Use in the Upper Colorado River – Phase II

Date: 2-3-21

Return this application to:

Mr. Craig Godbout
Colorado Water Conservation Board
Water Supply Planning Section
1313 Sherman St., Room 721
Denver, CO 80203
craig.godbout@state.co.us



Last Update: December 17, 2019

Colorado Water Conservation Board	
Alternative Agricultural Water Transfer Methods Grant	
Exhibit A - Statement of Work	
Date:	February 1, 2021
Water Activity Name:	Evaluating Conserved Consumptive Use in the Upper Colorado River – Phase 2
Grant Recipient:	Trout Unlimited
Funding Source:	Alternative Agricultural Water Transfer Methods
Water Activity Overview: <i>(Please provide brief description of the proposed water activity (no more than 200 words). Include a description of the overall water activity and specifically what the ATM funding will be used for.</i>	
<p>The overall goal of the proposed project is to work with local water users on field-based research to address priority feasibility questions related to temporary reductions in water use, including: (1) best practices for reducing irrigation on perennial irrigated pastures; (2) estimating and verifying actual water savings from those practices, and; (3) working with producers to identify multi-year strategies to create conserved consumptive use while maintaining viable agricultural operations.</p> <p>Phase 2 of this project directly builds on our past work, which included contracting with local producers to participate in the study, establishing reference and treatment fields, installing research equipment, and implementing reduced irrigation practices in 2020. Phase 2 focuses on evaluating how the treatment fields recover once returned to normal irrigation in 2021 and will include data collection on water use, forage yield and quality, and ag economics through 2023.</p> <p>Collecting this information will be valuable in formulating policies and programs encouraging ATM development on the Western Slope, which has different factors to consider when compared to Front Range ATM projects. Even within the Western Slope, it is important to recognize and study the differences in water conservation methods viable at higher elevations compared to those at lower elevations.</p>	
Objectives: <i>(List the objectives of the project)</i>	
<p>The overarching purpose of this project is to integrate multiple facets of agricultural water management, including science-based estimations of consumptive use for perennial grasses, strategies for reduced consumption, economic considerations, forage yield and quality impact of reduced pasture irrigation, and producer involvement and feedback. This project is focused on informing the Colorado Basin Roundtable about the viability of reducing irrigation on high elevation irrigated pasture to supply water that can be used for a number of potential purposes including, but not limited to, enhancing environmental flows and providing temporary municipal supplies in times of shortages. In addition, the project will also help address related questions on how to best implement, manage, monitor, and determine water conservation from reduced irrigation.</p> <p>The following are the primary objectives for Phase 2 of this project. It should be noted that many of these objectives are the same as in Phase 1 of the project, extended through 2023.</p> <ul style="list-style-type: none"> • Use remote sensing models to estimate consumptive use (CU) and conserved consumptive use 	



<p>(CCU) on large (200-1000 acres) irrigated high-elevation pastures characterized by various grasses, forbs, and sedges under varying soil and groundwater conditions. This will also include a comparative evaluation between the remote sensing models and field data from eddy covariance instrumentation, soil moisture sensors, groundwater observation wells, and local weather stations.</p> <ul style="list-style-type: none"> • Evaluate impacts and recovery for forages subjected to different levels of irrigation curtailment. This will include documentation of weed pressure and other impacts to yield, forage quality, plant carbohydrates, root depth and nutrient carryover. • Evaluate whether soil health practices can help improve field recovery following reduction irrigation. • Construct water production functions for different grass, forb, and sedge forages under varying soil and groundwater conditions to better understand CU rates in relation to these different species as well as how yield and forage quality relate to CU rates. • Complete ranch enterprise budgets to assist agricultural producers in comparing water leasing against baseline farming and ranching profitability and to inform questions of cost and price negotiations for ATM projects. • Provide regular outreach and education opportunities on the project to support constructive dialogue on water sharing programs affecting the Colorado Basin and Western Slope overall.
--

Tasks
Task 1 – Provide ET estimates using remote sensing based models
Description of Task:
Desert Research Institute, Utah State University, and OpenET will provide monthly, seasonal, and annual ET estimates for project fields using both individual models and a model ensemble approach (METRIC, SIMS, NDVI-reflectance, etc.). Estimates will be provided for 2021, 2022 and 2023.
Method/Procedure:
Following one-year of reduced irrigation (which involved either a full season of no irrigation or no irrigation after June 15 th), the project treatment fields will be returned to normal irrigation in 2021 and the project team will continue to estimate ET for both the treatment and reference fields for 2021, 2022 and 2023 using multiple methods. For the remote-sensing based ET estimates, we will work in close coordination with the Desert Research Institute (DRI), Utah State University (USU), and OpenET to provide ET estimates at monthly, seasonal, and annual time-steps for the project fields using both individual models like METRIC as well as an ensemble of multiple models. In addition, we will also generate historical ET estimates for these fields to determine water use variability between dry, wet, and average years.
Grantee Deliverable:
<ol style="list-style-type: none"> (1) ET estimates from treatment, reference and non-irrigated parcels at monthly, seasonal, and annual timesteps using GIS-based spatial modeling tools based on previously developed models. (2) Summary info on the context and considerations for the modeled estimates. (3) HCU estimates for the five previous years.



Last Update: December 17, 2019

Tasks
(4) Quarterly progress reports.
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual reports summarizing remote-sensing based ET estimates at multiple timesteps and key context and considerations for interpreting the data. • Mapped ET estimates showing spatial variability and consistency on study fields, reflectance maps using NDVI and other vegetative indices.

Tasks
<u>Task 2 - Provide ET estimates using an in-field eddy covariance tower</u>
Description of Task:
In partnership with Utah State University, provide daily, weekly, monthly, seasonal, and annual ET estimates for an anchor field with eddy covariance (EC) instrumentation. Estimates are to be provided for each 2021, 2022, and 2023.
Method/Procedure:
In 2020, Utah State University installed an eddy covariance tower on a select project field. For the remaining three years of the project, USU will continue to maintain the tower’s instruments, collect and process the data, and provide monthly, seasonal, and annual ET estimates for the project fields based on that data.
Grantee Deliverable:
<ol style="list-style-type: none"> (1) ET estimates at daily, monthly, seasonal, and annual timesteps using single models and model ensembles. (2) Quarterly progress reports.
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual reports summarizing eddy covariance ET estimates at multiple timesteps and key context and considerations for interpreting the data.

Tasks
<u>Task 3 – Continued Application of CDSS Tools</u>
Description of Task:
Coordinate with the Colorado Division of Water Resources to further evaluate application of CDSS and Lease Following Tool (LFT) to the project.
Method/Procedure:
Continue modeling of ET, soil moisture, and stream impacts using CDSS and the LFT.



Last Update: December 17, 2019

Tasks
Grantee Deliverable:
Estimates of changes in stream depletion resulting from project operations
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual summary report for 2021.

Tasks
Task 4 – Provide ET estimates from in-field data collection
Description of Task:
From 2021 to 2023, continue to collect in-field data with soil moisture sensors, groundwater observation wells, rain gages and atmometers to perform inter-comparisons between remote-sensing and soil-based ET estimates. Soil samples are taken to determine rooting depth, available water holding capacity, field capacity, wilting point, bulk density, organic matter and “soil health” data such as CO2 burst.
Method/Procedure:
Soil moisture sensors are installed at multiple research plot locations within reference and treatment fields. These tools use a soil-water deficit change approach to determine plant removal of water from the soil profile. Water table measurements will be performed using observation wells equipped with data-logging pressure transducers at the research plots. Atmometers provide an additional source of data to estimate ET based on local weather conditions. Soils are tested at professional laboratories.
Grantee Deliverable:
<ol style="list-style-type: none"> (1) ET estimates at multiple timesteps (daily, weekly, monthly, seasonal, and annual) for the project fields. (2) Soil maps for the project fields. (3) Quarterly progress reports.
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual reports summarizing soil water balance ET estimates at multiple timesteps and key context and considerations for interpreting the data.



Last Update: December 17, 2019

Tasks
Task 5 – Model comparison and analysis
Description of Task:
Compare ET estimates across models (remote-sensing, eddy covariance, field data, and CoAgMET) and analyze the key factors influencing these estimates by incorporating field data with model results.
Method/Procedure:
Statistical comparison of monthly results between different ET estimation approaches. Mean Bias Error (MBE) and Root mean squared error (RMSE) are common metrics used to assess accuracy for continuous variables like ET rates. Published data often uses these metrics to measure the average magnitude of the errors between different approaches.
Grantee Deliverable:
<ol style="list-style-type: none"> (1) Quarterly progress reports. (2) Annual summary report that provides a range of ET estimates, using the remote sensing models as a basis. Intercomparisons using field measurements will provide a range of accuracies for different approaches, consequently offering a range of CU and CCU estimates from the study fields. The report will also discuss the applicability of remote-sensing tools beyond the area of these study fields.
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual reports summarizing key findings from Tasks 1-4 and analysis comparing multiple models for estimating ET estimates as they apply to water conservation projects.

Tasks
Task 6 – Forage sampling and analysis
Description of Task:
Collect monthly forage samples for all project fields and analyze for yield and forage quality, including neutral detergent fiber (NDF), relative feed value (RFV), crude protein (CP), and total nonstructural carbohydrates (TNC). Samples will be collected in 2021, 2022, and 2023.
Method/Procedure:
Samples are collected monthly on reference and treatment fields, starting in May. Samples are dried and weighed to estimate dry weight biomass yields and compare between fields as part of “recovery” analysis, using reference fields as the benchmark. Samples are then tested using Near Infrared Reflectance spectroscopy (NIR), which allows for rapid determination of multiple nutrients and characteristics of a feed or forage. Composite samples are also evaluated for RFV at private labs.



Last Update: December 17, 2019

Tasks
<p>Grantee Deliverable:</p> <ul style="list-style-type: none"> • Quarterly progress reports. • Annual summary reports describing changes in quality between treatment and reference fields and how those results can help stakeholders better evaluate the recovery timeline, expectations, and impacts of water conservation.
<p>CWCB Deliverable:</p> <ul style="list-style-type: none"> • Quarterly progress reports. • Annual report summarizing key findings from Task 6 comparing yield and forage quality impacts resulting from curtailment programs.

Tasks
<p><u>Task 7 – Species identification</u></p>
<p>Description of Task:</p> <p>Use a point transect method to identify and document grass, forb, and sedge species on project fields. Identification will be conducted in 2021, 2022 and 2023.</p>
<p>Method/Procedure:</p> <p>Visual observations and species identification will be performed mid-summer when grasses are distinguishable based on seed heads, size, etc. Observations are taken at multiple even increments across fields, recorded and photographed.</p>
<p>Grantee Deliverable:</p> <p>Comparison of grass species changes on treatment versus recovery fields. Producer engagement on grass ecosystem is critical, given that many producers associate their animal genetics with species of grasses grown.</p>
<p>CWCB Deliverable:</p> <p>Tabular presentation of species changes and similarities between reference and treatment fields.</p>

Tasks
<p><u>Task 8 – Crop production functions</u></p>
<p>Description of Task:</p> <p>Analyze ET estimates, in-field water use data, and forage analysis to construct crop production functions that show the relationship between consumptive use (CU) and agronomic variables including crop yield and forage quality. Crop production functions will be constructed for 2021, 2022 and 2023.</p>



Last Update: December 17, 2019

Tasks
Method/Procedure:
Use monthly ET estimates from ensemble approaches to compare with forage production. Linear relationships are expected at the yield levels for the study fields.
Grantee Deliverable:
<ul style="list-style-type: none"> (1) Quarterly progress reports. (2) Annual report assessing the relationship of ET to biomass yield, which is useful in understanding expected yield reductions from future projects of similar type. This work also addresses current limitations in available data on ET vs yield relationships for common grasses in high-elevation pastures.
CWCB Deliverable:
<ul style="list-style-type: none"> • Quarterly progress reports. • Annual reports summarizing results and key findings from Tasks 7-9.

Tasks
<u>Task 9 – Evaluate impacts of soil health practices on field recovery</u>
Description of Task:
Implement select soil health practices on a small portion of the existing treatment fields and collect additional forage data on these fields to evaluate the potential for soil health practices to improve field recovery following reduced irrigation.
Method/Procedure:
Utilize expanded “soil health” assessment basis on study fields. The assessment includes Haney-Solvita tests to determine biological activity, but also nutrient carryover, electrical conductivity, compaction, infiltration rates.
Grantee Deliverable:
Tabular annual field comparisons between treatment, reference and non-irrigated fields.
CWCB Deliverable:
Annual reports summarizing key findings.



Last Update: December 17, 2019

Tasks
Task 10 – Complete enterprise budgets
Description of Task: Complete annual individual and countywide enterprise budgets for select project fields comparing reference and treatment fields. Enterprise budgets will be prepared in 2021, 2022, and 2023.
Method/Procedure: Enterprise budget compilation of data pertaining to field, farm and regional costs and revenue. Compare economic gains/losses for fields participating and those not participating in programs.
Grantee Deliverable: Annual summary for each field in the study program, both reference and treatment, with bottom-line net profits or losses.
CWCB Deliverable: Annual reports summarizing enterprise budget work that also incorporates the results from the Task 9 forage report to describe the economic considerations in evaluating temporary water lease options for agricultural producers.

Tasks
Task 11 – Outreach & Education
Description of Task: The project team will provide brief, quarterly progress reports to the CWCB and the Colorado Basin Roundtable and will make at least one presentation annually at a statewide or regional event such as Colorado Water Congress or Colorado Mesa University’s Upper Colorado River Forum.
Method/Procedure: n/a
Grantee/CWCB Deliverable: <ul style="list-style-type: none"> • Quarterly written progress reports. • Summary slide presentations, updated as needed and at least annually.



Budget and Schedule

Exhibit B - Budget and Schedule: This Statement of Work shall be accompanied by a combined [Budget and Schedule](#) that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format. A separate excel formatted Budget is required for engineering costs to include rate and unit costs.

Reporting Requirements

Progress Reports: The grantee shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues. The CWCB may withhold reimbursement until satisfactory progress reports have been submitted.

Final Report: At completion of the project, the grantee shall provide the CWCB a Final Report on the grantee's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

Payments

Payment will be made based on actual expenditures, must include invoices for all work completed and must be on grantee's letterhead. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

The CWCB will pay the last 10% of the entire water activity budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the water activity and purchase order or contract will be closed without any further payment. Any entity that fails to complete a satisfactory Final Report and submit to CWCB within 90 days of the expiration of a purchase order or contract may be denied consideration for future funding of any type from CWCB.

Performance Requirements

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Grant Guidelines, the CWCB will pay out the last 10% of the budget when the final deliverable is completed to the satisfaction of CWCB staff. Once the final deliverable has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

(b) Accountability: Per the Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per the Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final



Last Update: December 17, 2019

Reporting Requirements

project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.

Evaluating Conserved Consumptive Use in the Upper Colorado River – Phase 2

Grant Application Attachments:

- 1. Colorado Basin Roundtable Demand Management Workgroup Discussion Points**
- 2. Colorado Basin Roundtable Bylaws**
- 3. Trout Unlimited Bylaws**
- 4. Trout Unlimited Articles of Incorporation**
- 5. Study Area Map**

Colorado Basin Round Table Demand Management Workgroup Discussion Points WORK IN PROGRESS

Introduction: The Colorado Basin Roundtable formed a demand management workgroup at the end of January, 2019, with the goal to be proactive when appropriate to inform the statewide conversations about demand management going on all around us and to be reactive when we learn of something that should be addressed or considered by our basin. Many of us will not be part of the small inclusive CWCB workgroups being used to study the feasibility of a demand management program, but this will give us a larger voice in the conversation. Our other primary objective is to be involved in education and outreach within in our basin.

To that end, in both the large workgroup and in smaller groups, we have been discussing the issues, questions, concerns and principles we feel should be part of the demand management conversation. We have tried to summarize this process in this document. Not everyone within the workgroup may have the same reaction to a particular discussion point below, but as a whole the group recognizes these points as ones we do not want to lose sight of in the process. Likewise, although some issues are presented as questions below, some of us may feel there are already answers to these questions, but others may have less confidence that there is a consensus in the answers.

It is important to our workgroup that these discussion points be viewed as a work in progress intended to foster further discussion and to encourage additional input from others. We expect this document to evolve as we move through the Risk Study III results and meet with the other West Slope Roundtables on June 20. We welcome your thoughts.

Discussion Points:

1. A demand management program has to support existing and future productive agriculture and not unfairly impact rural communities, which means, among other things, not removing water permanently from the land. Avoiding permanent “buy and dry” is of paramount importance in the Colorado River basin.
2. A demand management program must be “equitable” between the west slope and the east slope and between the west slope basins and within a basin - between municipal uses and agricultural uses and industrial uses (to be sure burden not on agriculture alone) and across elevations and geographies (to be sure burden not on lower elevations alone). We need to avoid concentrated impacts. The Colorado River Basin Roundtable should try to reach a consensus as to what it believes “equitable” to mean. Will this definition change as future water projects come on line in different basins?
3. Market-based mechanisms under a demand management program must consider all costs associated with a reduction in water use and not just strive to minimize compensation. If demand management payments are designed to be a profit source, there

will be more incentive for land to stay in agricultural production. All farmers and ranchers in all basins should be able to participate in voluntary demand management. A “one price fits all” compensation plan will not work, but the question of compensation may be resolved under free market principles.

4. There can be ancillary benefits to a demand management program that we should not lose sight of and which may play a role in implementation and funding decisions. For example, demand management payments could be a bridge for producers to transition to organic production, or to make other market transitions. Also, the reduced diversions associated with demand management may result in environmental benefits both upstream and downstream of the participating water right.

5. We cannot lose sight of the secondary economic and community impacts demand management may have at local/regional/statewide levels. Water rights and the water associated with the rights are valuable to communities even if the water rights are private property rights. Can rural communities be protected from concentrated areas of full fallow or speculation in water without trampling on property rights? Do local governments with land use authority have a role to play in demand management to ensure the community benefits associated with water rights remain within the community?

6. We feel a bit behind the curve on addressing the technical issues associated with a demand management program. Work needs to be done to address measurement, calculation methodologies and verification and the collection of data to support the same based upon spatial variability and elevation differences. More research into deficit irrigation and potential “alternative” crops may lead to solutions for some of the issues associated with demand management. Like the question concerning compensation, can a “one size fits all” standardized method to quantify conserved consumptive use work in a variety of environments and farming/ranching programs? Will the lack of a standardized method be an impediment to implementation of a demand management program in the near term?

7. The Colorado River basin does not want a successful temporary and voluntary demand management program to pave the way for continued future development that does not adequately address the water scarcity issues facing the basin. A successful demand management program cannot increase the need for more demand management. To put it another way, demand management implementation should not be used as a “reservoir” for future consumptive use development.

8. We need to ensure that voluntary participation in a demand management program does not lead to mandatory participation in the future or result in claims of waste and efforts to reduce a participator’s water right. Furthermore, the historical consumptive use of a participating water right must not be negatively impacted. State law C.R.S. § 37-92-305 (3)(c) currently will only protect the historical consumptive use of a water right that is enrolled in certain water conservation or approved land fallowing programs a maximum of

five years in any consecutive ten-year period. Is that adequate for purposes of a temporary demand management program?

9. What does voluntary mean? Agriculture often involves both the owner of the water right and land, the landlord, and a tenant, the producer. In order to protect productive agriculture and rural communities, there needs to be consideration of this interplay and there will need to be a perceived benefit for both the landowner and the producer to participate in a demand management program. Also, on the west slope, much agricultural ground is irrigated using federal Bureau of Reclamation projects. Could the Bureau of Reclamation force any of the United States water rights to be used for demand management without the landlord and/or producer's consent?

10. Requiring a participant to subject a water right to the current water court change process is likely to discourage a significant number of the willing participants in any demand management program. What are viable alternatives that still protect other water users?

11. How can local municipalities support projects within their areas? Local alternative transfer methods projects could be such an opportunity if coordinated with a demand management program. As municipalities work to increase the resiliency of their water systems in the face of climate change, how will this affect the statewide demand management efforts?

12. Are there sources of demand management water not being adequately considered such as non-tributary groundwater or reclaimed produced groundwater?

BY-LAWS FOR THE COLORADO BASIN ROUNDTABLE

Approved January 23, 2006

PREAMBLE

In Colorado, water is among the state's most important issues. The ability to successfully address the challenges and opportunities related to water requires a basin-driven, collaborative approach. To facilitate continued discussions within and between basins on water management issues, and to encourage locally driven collaborative solutions to water supply challenges, the Colorado Water for the 21st Century Act created nine permanent basin roundtables. These roundtables include the following: (1) South Platte Basin; (2) Arkansas Basin; (3) Rio Grande Basin; (4) Gunnison Basin; (5) Colorado Basin; (6) Yampa-White area; (7) Dolores, San Miguel, and San Juan Basins; (8) Metro area; and (9) North Platte area.

ARTICLE I

NAME AND PURPOSE/MISSION

Section 1. Name. The name of the organization shall be the Colorado Basin Roundtable, (the "Roundtable"), with its principal office located at: Colorado River Water Conservation District, P.O. Box 1120, Glenwood Springs, Colorado 81602.

Section 2. Purpose/Mission. The purpose/mission of this Roundtable is to develop long-term solutions to intra-basin water needs, and collaborate with other Roundtables to find solutions to inter-basin water issues.

ARTICLE II

GOALS AND OBJECTIVES

- Provide a basin-wide framework for coordination, cooperation and citizen involvement in promoting and improving the appropriate use of the state's waters.
- Participate in statewide water issues. Facilitate the Colorado Basin Roundtable area's participation in statewide water issues by selecting two individuals to represent the Roundtable on the Interbasin Compact Committee.
- Develop a basin-wide water needs assessment to evaluate the consumptive and non-consumptive water needs of the Colorado Basin Roundtable area.
- Propose methods or projects, both structural and non-structural, for meeting any future needs as well as utilizing any unappropriated waters.

- Plan for the protection, conservation, and use of water in the Colorado Basin Roundtable area.
- Protect and conserve the natural environment.
- Review existing and proposed projects for purposes of meeting future needs.
- Conduct other business as authorized by the Basin Roundtable.

ARTICLE III DEFINITIONS

- 3.1 **By-laws** – The by-laws governing the Colorado Basin Roundtable.
- 3.2 **Chairperson** – The presiding officer of the Colorado Basin Roundtable.
- 3.3 **The Colorado Water for the 21st Century Act** – An Act passed during the 2005 Legislative Session “Concerning the Negotiation of Interbasin Compacts Regarding the Equitable Division of the State’s Waters.” The Colorado Water for the 21st Century Act is also known as House Bill 05-1177.
- 3.4 **Consensus** – Consensus is understood to mean: all Roundtable Members believe their views on a particular issue have been satisfactorily heard and agree not to block the group’s decision on the issue.
- 3.5 **Interbasin Compact Committee (IBCC)** – A twenty-seven-member (27) committee, created pursuant to the Colorado Water for the 21st Century Act, for the purpose of facilitating the process of interbasin compact negotiations.
- 3.6 **Local Public Body** – Any board, committee, commission, authority, or other advisory, policy-making, rule-making, or formally constituted body of any political subdivision of the state and any public or private entity to which a political subdivision, or an official thereof, has delegated a governmental decision-making function but does not include persons on the administrative staff of the local public body.
- 3.7 **Roundtable Members** – Individuals who have been appointed or selected to serve on the Colorado Basin Roundtable through the process specified in the Colorado Water for the 21st Century Act.
- 3.8 **Roundtable Leadership** – Chairperson, two Vice Chairpersons, Recorder.
- 3.9 **Other Appropriate Sources** – Other appropriate sources include: Information from the State-Wide Water Supply Initiative; A Balanced Water Solution For Colorado; and any other local and regional water supply/demand studies and studies addressing the environmental, economic and social impacts associated with changes in allocation and use of water resources.

- 3.10 **Person** – An individual, corporation, partnership, incorporated association, and the like and shall have no gender and the singular shall include the plural.
- 3.11 **Recorder** – The record keeper of the Colorado Basin Roundtable.
- 3.12 **Representative** – Individuals who have been appointed by the Colorado Basin Roundtable to represent the Roundtable area on the IBCC.
- 3.13 **Roundtable** – The Colorado Basin Roundtable created through the process specified in The Colorado Water for the 21st Century Act.
- 3.14 **Stakeholder** – Any person or entity in the Colorado Basin Roundtable area that is interested in or impacted by the decisions of the Colorado Basin Roundtable.
- 3.15 **Vice-Chairperson** – The officer next in rank to the Chairman of the Colorado Basin Roundtable.
- 3.16 **Water Division** – Water division has the same meaning as set forth in Section 37-92-201, C.R.S.
- 3.17 **Water Management District** – Means those districts established by the Division of Water Resources and depicted on maps published by the Division.

ARTICLE IV ROUNDTABLE MEMBERSHIP

Section 1. **Roundtable Members.** Are those described in “The Colorado Water for the 21st Century Act.”

Section 2. **Term of Office.** Members shall serve a term of five (5) years; except that initial terms shall be staggered pursuant to the Roundtable’s By-laws. Vacancies shall be filled pursuant to the same criteria as the original appointment.

Section 3. **Initial Terms Staggered.** The initial terms of Roundtable Members are as follows:

- A. All Water Conservancy District and Conservation District members shall serve terms that will expire on September 2, 2007; and,
- B. All at large representatives shall serve terms that will expire on September 1, 2008; and,
- C. All other members’ terms shall expire on September 1, 2009.

Section 4. **Voting.** For purposes of voting on Roundtable business, each in-basin Member in Section 1 shall have one vote.

Section 5. Annual Meeting. An Annual Meeting of the Members in Section 1 shall be held on the fourth Monday in September of each year at a date, time and place determined by the Roundtable Members. Each Member and the public shall be notified in advance as set forth in Article VII.

Section 6. Non-Represented Interests. Government agencies, individuals, local governments, and other organizations not directly represented by a Member of the Roundtable are encouraged to participate in the Roundtable's meetings, however, non-represented interests will not act as voting Members of the Roundtable.

Section 7. Substitutes and Proxies. Roundtable members may send a substitute or proxy on their behalf to a Roundtable meeting. In order for a member to substitute, a written proxy must be submitted to the group prior to the meeting. The written proxy shall be submitted to the Chairman or recorder. Substitutes or proxies shall represent the same category and entity as the person for whom they are substituting. However if a Roundtable member fails to attend three consecutive regular meetings of the committee without the committee having entered upon its minutes an approval for additional absence or absences, except that such additional absence or absences shall be excused for temporary mental or physical disability or illness, the Roundtable member's position shall be deemed vacant.

ARTICLE V ROUNDTABLE LEADERSHIP

Section 1. General Powers. The Roundtable Leadership shall have the power to manage the business and affairs of the Roundtable in such manner as it sees fit. In addition to the powers and authorities expressly conferred upon it, the Roundtable Leadership may do all lawful acts which are not directed to be done by statute or by these By-laws.

Section 2. Number and Qualifications. The Roundtable shall have one chairperson, two vice chairpersons, and one recorder. The chairperson, vice chairpersons, and recorder shall be selected by consensus of Roundtable Members. The chairperson, vice chairpersons, and recorder shall serve a one-year term with no limit on the number of terms served. The total number of Roundtable Members shall be determined according to the statutory scheme in The Colorado Water for the 21st Century Act.

Section 3. Election and Term of Office. The chairperson, two vice-chairpersons, and recorder, to be elected by the Roundtable, shall be elected annually by the Roundtable at its annual meeting. Each person so elected shall hold office until the resignation of such person or a successor shall be duly elected and qualified, until the death of such person, or until removal of such person in the manner herein provided.

Section 4. Removal. Any person elected or appointed by the Roundtable may be removed by the Roundtable whenever, in its judgment, the best interests of the Roundtable would be served thereby, but such removal shall be without prejudice to the contract rights, if any, of the person so removed.

Section 5. Vacancies. A vacancy in any elected position because of death, resignation, removal, disqualification or otherwise may be filled by the Roundtable for the unexpired portion of the term.

Section 6. The Chairperson of the Roundtable. The Roundtable shall select a Chairperson. The Chairperson shall preside at all meetings of the Roundtable. The Chairperson shall also see that all notices are duly given in accordance with the law and the provisions of the By-laws.

Section 7. The Vice Chairpersons of the Roundtable. The Roundtable shall select two Vice Chairpersons. In the absence of the Chairperson or in the event of the death or inability or refusal to act of the Chairperson, one of the two Vice Chairpersons shall perform the duties of the Chairperson and when so acting shall have all the powers of and be subject to all the restrictions upon the Chairperson. In the event of the resignation of the Roundtable Chairperson, one of the two Vice Chairpersons shall be selected as the new Chairperson.

Section 8. The Recorder of the Roundtable. The Roundtable shall elect a Recorder. The Recorder shall be custodian of the Roundtable's records, and shall keep a list of the address of each Member. The Recorder shall also perform, or cause to be performed: (1) the responsibility for all record keeping of the Roundtable; (2) official recording of formal decisions of all Roundtable proceedings; and (3) any other duties as may be assigned by the Roundtable.

Section 9. Salaries. Neither the chairperson nor the vice chairpersons nor the recorder shall receive a salary for their work on behalf of the Roundtable.

ARTICLE VI DECISION-MAKING

Section 1. Decision-Making. A concerted effort shall be made by the Roundtable to reach decisions by consensus. However, other methods may evolve such as voting with a majority ruling. In the absence of a consensus or being otherwise provided for in the By-Laws, all issues may be decided by a majority vote of the voting membership.

ARTICLE VII MEETINGS AND GOVERNANCE

Section 1. Annual Meeting. An annual meeting of the Roundtable will be held the fourth Monday in September of each year to include at a minimum selection of chairpersons, annual reports, other business pertinent to the Roundtable, and for purposes of the Colorado Open Meeting Law, decide which place or places will be deemed the public location(s) for the posting of notice of Roundtable meeting times and/or locations.

Section 2. Regular Meetings. A regular meeting of the Roundtable shall be held once a quarter. The Roundtable may provide, by resolution, the time and place, which must be within the Colorado River Basin, for the holding of additional regular meetings. The notice of the meeting must be posted and distributed in such a manner so as to comply with the Colorado Open Meetings Law. The Roundtable is encouraged to schedule its regular meetings on days and times that will allow for diverse geographic participation.

Section 3. Special Meetings. Special meetings of the Roundtable may be called by or at the request of the chairperson or, in their absence, the vice chairpersons. The person or persons authorized to call special meetings of the Roundtable may fix any place, which must be within the State of Colorado, as the place for holding any special meeting of the Roundtable called by them. The notice of the meeting must be posted and distributed in such a manner so as to comply with the Colorado Open Meetings Law.

Section 4. Open Meetings Law. The Roundtable shall be deemed to be a "local public body" for purposes of the Open Meetings Law, Part 4 of Article 6 of Title 24, C.R.S. By law, the Roundtable must give at least 24-hour notice of any meeting, which is posted in a public place or places, which are determined by the Roundtable. If available, a meeting agenda shall be published with the notice. The Roundtable Process is intended to be a public endeavor, with input from all who want to give it.

Section 5. Minutes. The Recorder shall keep accurate minutes of all Roundtable meetings. All minutes shall be subject to approval at the subsequent Roundtable meeting. These minutes shall be stored at the Roundtable's principal office and made available to the public upon request.

Section 6. Quorum. A majority of the total membership of the Roundtable shall constitute a quorum for the transaction of business at any meeting of the Roundtable, but if a quorum shall not be present at any meeting or adjournment thereof, a majority of the Members present may adjourn the meeting without further notice.

Section 7. Action by Consent of All Members. Any action required to be taken, or which may be taken at a meeting of the Roundtable may be taken without a meeting, if a consent in writing, setting forth the action so taken, shall be signed by all of the Members entitled to vote with respect to the subject matter thereof. Such written consent or

consents shall be filed with the minutes of the Roundtable. Such action by written consent of all entitled to vote shall have the same force and effect as a unanimous vote of such Members at a meeting of Members at which a quorum is present.

Section 8. Subcommittees, Sub-Roundtables, or Other Mechanisms. The Roundtable shall have the ability to establish subcommittees, sub-roundtables or other mechanisms to facilitate dialogue and resolution of issues and conflicts within the Roundtable area. These mechanisms may be permanent or temporary, and may be established to negotiate compacts, examine negotiated compacts, develop projects, represent geographically different areas within the Roundtable basin, or any other reason the Roundtable sees fit.

Section 9. Vacancies. Any vacancy occurring in the Roundtable shall be filled according to the statutory scheme designed by The Colorado Water for the 21st Century Act.

Section 10. Compensation. The Members shall receive no compensation for their service as a Member to the Roundtable. However, nothing will preclude a Member from receiving reimbursement from the Roundtable for actual expenses incurred and incident to the performance of their duties as authorized by the Roundtable.

Section 11 Presumption of Assent. A Member of the Roundtable who is present at a meeting of the Roundtable at which action on any matter is taken shall be presumed to have assented to the action taken unless the dissent of such Member shall be entered in the minutes of the meeting, filed in writing with the Chairperson of the meeting before the adjournment thereof or forwarded by registered mail to the Chairperson of the Roundtable immediately after the meeting. Such right to dissent shall not apply to a Member who voted in favor of such action.

Section 12. Resignation of Chairperson, Vice Chairpersons and Members. Any Chairperson, Vice Chairperson, or Member may resign at any time by submitting a resignation in writing. Such resignation takes effect from the time of its receipt by the Roundtable unless a date or time is fixed in the resignation, in which case it will take effect from that time. Acceptance of the resignation shall not be required to make it effective.

Section 13. Participation by Non-Members. Public participation in the Roundtable Process is encouraged by expressing views and opinions to Roundtable Members. Roundtable Members may take into account these views and opinions when deciding how the Roundtable business shall proceed. The Chairperson may adopt special rules of discussion on a case-by-case basis.

Section 14. Rules of Conduct.

- A. Robert's Rules of Order shall be the Parliamentary Authority of this Roundtable, subject to special rules, which have been or shall be adopted.

- B. The Chairperson may cut off or limit debate on any issue or subject unless overruled by a majority of members present at the meeting until special rules are adopted by the Roundtable.

ARTICLE VIII ROUNDTABLE POWERS

Section 1. Inter-basin Compacts. Upon the approval of the Interstate Compact Charter by the General Assembly, the Roundtable shall have the power to negotiate inter-basin compacts with other Roundtables established under The Colorado Water for the 21st Century Act. The Roundtable shall agree to any compact that is negotiated in order for it to become valid and binding.

Section 2. Interbasin Compact Committee.

- A. The Roundtable shall select two individuals to represent the Roundtable on the IBCC. The Representatives do not have to be members of the Roundtable, but at least one shall reside within the borders of the Roundtable and at least one of whom shall own adjudicated water rights, including owners of shares in a ditch or reservoir company or their agents. Representatives from the Roundtable to the IBCC may be removed from representation at the discretion of and by a majority vote of the Roundtable voting membership.
- B. The Representatives shall represent the views and interests of the basin on the IBCC. The Representatives shall have the power to:
- Negotiate, approve, and amend IBCC by-laws;
 - Negotiate, approve, and amend the IBCC Charter; and
 - Participate in the development of the IBCC's public education and outreach process.

Section 3. Basin-Wide Water Needs Assessment.

- A. The Roundtable shall develop a basin-wide water needs assessment to fulfill the provisions of the Colorado Water for the 21st Century Act (37-75-004 2(c)). This assessment shall look at the consumptive and non-consumptive needs of the Roundtable areas, analyze available waters within the Roundtable area, and propose projects or methods (both structural and nonstructural) for meeting any identified needs and utilizing waters where appropriate.
- B. The basin wide water needs assessment will use data and information from appropriate sources as the foundation for the assessment.

- C. The basin wide water needs assessment shall be developed in cooperation with local governments, area water providers, and other stakeholders, recognizing applicable permitting requirements.
- D. Any proposed projects or methods resulting from the basin-wide water needs assessment will be forwarded to the IBCC by the Representatives.

Section 4. Voting Members. The Roundtable may, at its sole option, establish procedure to confer membership and/or voting rights on individuals who are not members of the Roundtable in order to satisfy local needs.

Section 5. Public Education and Outreach. The Roundtable shall serve as a forum for public involvement on water matters in the Roundtable area. The Roundtable will serve as a forum for education and debate regarding: the goals, objectives, and operation of the Roundtable; the development of the basin-wide water needs assessment; and proposed projects or methods for meeting water supply needs.

ARTICLE IX CONTRACTS, LOANS, CHECKS AND DEPOSITS

The Roundtable may authorize the chairperson or vice chairpersons, agent or agents, to enter into any contract on behalf of the Roundtable and such authority may be general or confined to specific instances.

ARTICLE X FISCAL YEAR

The fiscal year of the Roundtable shall begin on the first day of July and end on the last day of June in each year, unless otherwise designated by the Roundtable.

ARTICLE XI WAIVER OF NOTICE

Whenever any notice is required to be given to any Member of the Roundtable, under the provisions of these By-laws or under the provisions of the Articles or under the provisions of the applicable laws of the State of Colorado, a waiver thereof in writing, signed by the person or persons entitled to such notice, whether before, at or after the time stated therein, shall be deemed equivalent to the giving of such notice.

**ARTICLE XII
INDEMNIFICATION**

The Roundtable shall have the power to indemnify any chairperson, vice chairperson, recorder, member, employee or agent of the Roundtable to the fullest extent permitted under Colorado law.

**ARTICLE XIII
AMENDMENTS**

The Roundtable's By-laws shall be reviewed annually. These By-laws may be altered, amended, repealed or replaced by new by-laws by the Roundtable at any annual, regular or special meeting of the Roundtable. All Members shall have received written notice of any and all proposed changes to the By-laws at least two weeks prior to the date such changes are to be voted upon.

**ARTICLE XIV
UNIFORMITY OF INTERPRETATION
AND SEVERABILITY**

These By-laws shall be so interpreted and construed as to conform to the statutes of the State of Colorado, and where conflict between these By-laws and a statute has arisen or shall arise, the By-laws shall be considered to be modified to the extent, but only to the extent, conformity shall require. If any By-law provision or its application shall be deemed invalid by reason of the said nonconformity, the remainder of the By-laws shall remain operable in that the provisions set forth in the By-laws are severable.

**ARTICLE XV
RATIFICATION OF BY-LAWS**

These By-laws and any amendments shall become valid and binding fourteen days after ratification by a three-fourths majority vote of the Members.

(Non-Profit)

ARTICLES OF INCORPORATION

These Articles of Incorporation are signed and acknowledged by the incorporators for the purpose of forming a non-profit corporation under the provisions of Act No. 327 of the Public Acts of 1931, as amended, as follows:

ARTICLE I.

The name of the corporation is TROUT, Unlimited

(Please type or print corporate name)

ARTICLE II.

The purpose or purposes for which the corporation is formed are as follows:

~~to conserve and preserve the trout as a game fish, to promote trout angling in a sportsmanlike manner, and to work with and encourage constituted authorities and other conservation organizations to that end; through scientific, yet practical, trout management; through land, water and watershed management to provide desirable food and habitat; through sound fishing regulations to preserve and increase the trout population; and through dissemination of full and accurate information to the members and general public.~~

ARTICLE III.

Location of the first registered office is: Room 46, Goodspeed Bldg.

210 1/2 Abbott Road East Lansing Ingham Michigan.
(No.) (Street) (City) (Zone) (County)

Postoffice address of the first registered office is: P.O. Box No. 1 East Lansing Michigan.
(No. and Street or P. O. Box) (City) (Zone)

ARTICLE IV.

The name of the first resident agent is Victor C. Beresford

ARTICLE V.

Said corporation is organized upon a non-stock basis.
(Stock-share or non-stock)

(a)
~~(If upon a stock-share basis fill in the following)~~

The total number of shares of stock which the corporation shall have authority to issue is _____ of the par value of \$ _____ per share.
(No. shares)

A statement of all or any of the designations and the powers, preferences and rights, and the qualifications, limitations or restrictions thereof is as follows:

(b)
~~(If upon a non-stock basis strike out paragraph (a) above and fill in the following)~~

The amount of assets which said corporation possesses is:

*Real property: NONE

*Personal property: Office equipment... Safe... \$ 124.50
Desk... 41.60
Chair... 31.15
Cash on hand..... \$1,135.00

*(Give description and value)
Said corporation is to be financed under the following general plan:
by payment of annual dues and donations

ARTICLE VI.

The names and places of residence, or business, of each of the incorporators and (if a corporation organized upon a stock share basis) the number of shares of stock subscribed for by each are as follows:

(At least three required)
(Please type or print following information if possible)

NAMES	RESIDENCE OR BUSINESS ADDRESS	NUMBER OF SHARES
	(No.) (Street) (City)	(State)
Victor C. Boresford	Room 46 210 1/2 Abbott Rd.	East Lansing Mich.
George A. Griffith	* Route American	Grayling Mich.
Casey E. Westell Jr.	Box Board Co.	Filer City Mich.

(Non-Profit)

ARTICLE VII.

The names and addresses of the first board of directors (or trustees) are as follows:
(At least three required)

NAME	(No.)	(Street)	ADDRESS	(City)	(State)
Lon B. Adams	1019	East Erie Ave.	Lorain,	Ohio	
Casey E. Westell Jr.		American Box Board Co.	Filer City,	Mich.	
Arthur C. Neumann	4855	Sheridan Road	Saginaw,	Mich.	
Victor C. Beresford	210 1/2	Abbott Road	East Lansing,	Mich.	
George A. Griffith	*	Route	Grayling,	Mich.	
Cornelius M. Schrems	219	Paris S.E.	Grand Rapids,	Mich.	
Kenneth M. Putnam	11E	Chicago St.	Coldwater,	Mich.	
C. R. Evenson	1501	Buchanan	Grand Rapids,	Mich.	
Pierce Stocking			Empire,	Mich.	
Harry S. Bugbee	2001	Toledo Trust Bldg.	Toledo,	Ohio	
John N. Keen	421	Clark	Big Rapids,	Mich.	
D. Earl Kimble		Oak Grove Resort VIII.	Gaylord,	Mich.	

The term of the corporate existence is thirty years.

ARTICLE IX.

(Here insert any desired additional provisions authorized by the Act)

We, the incorporators, sign our names this

5th day of September, 1959.

(All parties appearing under Article VI are required to sign and acknowledge)

Victor C. Beresford
(Victor C. Beresford)
George A. Griffith
(George A. Griffith)
Casey E. Westell Jr.
(Casey E. Westell Jr.)

Victor C. Beresford
George A. Griffith
Casey E. Westell Jr.

STATE OF MICHIGAN }
COUNTY OF Crawford } ss.

On this 5th day of September, 1959, before me personally appeared Victor C. Beresford, George A. Griffith and Casey E. Westell Jr.

to me known to be the persons described in and who executed the foregoing instrument, and acknowledged that they executed the same as their free act and deed.

Lillian M. Hill

(Signature of Notary)
LILLIAN M. HILL, NOTARY, CRAWFORD COUNTY, MICH.

MY COMMISSION EXPIRES JANUARY 11, 1963
(Print or type name of notary)

Notary Public for _____ County
State of Michigan

FRANCHISE FEE \$10.00
FILING FEE \$10.00

My Commission expires _____
(Notarial seal required if acknowledgment taken out of State)

ORIGINAL
(Non-Profit)

MICHIGAN
ARTICLES OF INCORPORATION

OF
TROUT, Unl.imited

(Please type or print corporate name)

Under Act 327, Public Acts of 1931, as amended

(This form prepared by Michigan Corporation and Securities Commission.)

FILED

SEP 22 1959

This is to certify these articles to be a true copy of the original on file in this office.

Lawrence B. ...
COMMISSIONER
MICHIGAN CORPORATION AND
SECURITIES COMMISSION

MAIL THREE SIGNED AND ACKNOWLEDGED
COPIES TO:

Michigan Corporation & Securities Commission
P. O. Box 898
Lansing 4, Michigan

Fees \$20.00



RECEIVED

SEP 21 1959

MICHIGAN CORPORATION AND
SECURITIES COMMISSION

RECEIVED

SEP 22 1959

MICHIGAN CORPORATION AND
SECURITIES COMMISSION

MICHIGAN CORPORATION AND
SECURITIES COMMISSION

SEP 22 1959

Ed M.D.
Compared by

R.M. Thayer
Donald F. Valley
W.C. Whorley
Charles M. Woodward
Leslie H. Woodward
James J. Work
Cornelius M. Schrems
Louis A. Weil, Jr.
Waldo I. Stoddard
Dr. Charles H. Frantz
William J. Chaille
Graham F. Stewart
Jerome W. Eberts
W. Claire Cartier
Roy H. Osmun
Henry D. Snyder
Walter A. Reichle
G.S. Garber
S.H. Swift
G. Morley Boyd
E.P. Schutt
F.N. Andersen
J.C. Scheib
R. Perry Shorts
J.L. Brown, Jr.
Helen F. Brown
David W. Camp
R.G. Waldron
Alex A. Reid
G.H. Schrader
Albert L. Riedel
R.C. Rieder
David W. Ward
Dr. Martin C. Sharp
Mrs. Gail C. Shipp
H.W. Ingersoll
Elmer Houghton
Glen Barnett
Ray Cuyler
W.G. McDonald
W.R. Wenders
Dr. A.E. Van Vleck
Dr. R.A. Van Vleck
George E. Matthews
Atlee A. Hardy
Edgar Lobdell
John T. Derrickson
Emil Peltz
Dr. E.E. Henig
James O. Coates
H.L. Brewer
Lyle Hunt
O.C. McPherson
E.F. Roosa
Arthur E. Ellis
Wallace G. Clark
G.A. Clark
Donald L. Mooney
D.A. DeGrow

1515 Howard
National Bank of Detroit
226 Forest Drive
163 Marshall St.
163 Marshall St.
McVay Drive
219 Paris St. S.E.
1745 Pontiac Rd. SE
Mich. National Bank Bldg.
1810 Wealthy St. SE
750 Cambridge Blvd.
419 Morris St. SE
810 Plymouth Rd. SE
945 Plymouth Rd. SE
509 E. Buttles St.
715 So. Michigan Ave.
2301 Nurmi Rd.
1605 North Michigan Ave.
7 Davis Road
608 Second National Bank
18 Benton Rd.
1705 Boxwood
1683 Avalon
101 North Washington Ave.
3952 Cottontail Lane
3952 Cottontail Lane
58 Amherst
151 N. Hudson
2012 Carman Dr.
12 Benton Rd.
11 Benton Rd.
1605 Lathrup
4015 James St.
2202 Barnard St.
611 Jennings Landing
8604 Fiesta Way
137 N. Ruggles
500 W. Chicago St.
322 North Douglas
165 First St.
841 Cory
501 East Michigan
Route 1
1404 Sigsbee SE
1217 Parkview
13884 Bringard
1054 East St.

419 Steward
601 Harwood
2019 Jeffery Ct.
1105 First
520 Heyser
4171 Sheffield Dr.
1408 Kelsey
117 So. Wisner

Saginaw, Mich.
Detroit, Mich.
Kokomo, Ind.
Coldwater, Mich.
Coldwater, Mich.
LeRoy, Ohio.
Grand Rapids, Mich.
Midland, Mich.
Saginaw, Mich.
Bay City, Mich.
Saginaw, Mich.
Birmingham, Mich.
Birmingham, Mich.
Pleasant Ridge, Mich.
Coldwater, Mich.
Saginaw, Mich.
Battle Creek, Mich.
Fort Wayne, Ind.
Bronson, Mich.
Bronson, Mich.
Bronson, Mich.
Alpena, Mich.
Fostoria, Ohio.
Paw Paw, Mich.
Grayling, Mich.
Grand Rapids, Mich.
Lansing, Mich.
Detroit, Mich.
Muskegon, Mich.
Rogers City, Mich.
Grayling, Mich.
Jackson, Mich.
Jackson, Mich.
Jackson, Mich.
Jackson, Mich.
Jackson, Mich.
Jackson, Mich.
Lansing, Mich.
Jackson, Mich.
East Tawas, Mich.
East Tawas, Mich.

Earl J. Weaver, Jr.
Irwin P. Ruppert
Howard W. Hatton
Dr. James E. Jacques
Bert N. Johnson
Clyde Montgomery
C. R. Evenson
Gordon B. Bonfield
Rosalynde Johnston
Kenneth L. Peterson
Earl L. Madsen
Lon B. Adams
Charles F. Spademan
William T. Arlund
Harrison M. Goodhue
Dr. Frederic A. Henny
D. Earl Kimble
A. W. Schuler Jr.
Jack DeYoung
Dick Davis
John E. Phillips
Mort Neff
Wayne E. Hull
Harvey M. Lohr
Roy G. Olson
Alex T. Strange

Norman Guenther
Harry L. Chamberlin
Charles Nash Miller
Charles N. Miller, Jr.
J. E. Galkins
L. H. Dunten
Wesley V. Cooper
Harold Culman
Harry H. Whiteley
Walter A. Nowak
James E. Pierce
Clarence A. Gross
R. E. Shook
Henry B. Smith, Jr.
Walter H. Confer
Dr. Don M. Howell
A. K. Krause
Dr. E. C. Beebe
Joseph H. Martin
Kenneth Brown
C. Ten Broek
B. Russel Buck
Stuart F. Peterson

Stuart F. Peterson
Ron Dilley
Newton Dilley
William J. Spear
Donald T. Nash
Earl L. Baldwin
Fred L. Bell
Jack W. Smith Jr.

1501 Buchanan SW
1635 Seminole Rd. SE
3487 W. Outer Drive
4813 Greenlawn Dr.
* Route
1019 East Erie Ave.
484 Warren Court
2727 Square Lake Rd.
18155 Dumblaine Rd.
3218 Broadway Blvd.
Oak Grove Resort, Rt. 2
201 Henley Dr.
Vine St.
WKNX-TV
614 Spencer
7471 Jackson Park Drive
1444 Alpine NW
333 West 15th St.
1115 Lake Shore Dr.
Tobacco River Rod
& Gun Club
5380 South Maple Rd.
511 Carey St.
611 56th St. Room 218
1107 Michigan
422 Oakdale
802 Fort Wayne Bank Bldg.
Route 3
521 W. 10th.
1016 South College
1308 North Parkway
802 Ogemaw
130 So. Union
2316 Nurmi Drive
2112 Gratiot
275 South Main
2960 Maplewood
1001 Peoples National Bank
7910 Conservation Rd.
916 San Jose Dr.
225 Bankers Bldg.

1534 Blythe Dr. N.W.
338 Morris SE
436 Cambridge Blvd. SE
2808 S. Jefferson
Center Woods
9234 Murphy Highway
415 South Union
824 North Evans St.

East Tawas, Mich.
Tawas City, Mich.
Tawas City, Mich.
Tawas City, Mich.
East Tawas, Mich.
Tawas City, Mich.
Grand Rapids, Mich.
Grand Rapids, Mich.
Detroit, Mich.
Flint, Mich.
Grayling, Mich.
Lorain, Ohio.
Birmingham, Mich.
Birmingham, Mich.
Birmingham, Mich.
Birmingham, Mich.
Gaylord, Mich.
Grand Haven, Mich.
Spring Lake, Mich.
Saginaw, Mich.
Flint, Mich.
Birmingham, Mich.
Grand Rapids, Mich.
Traverse City, Mich.
Escanaba, Mich.
Clare, Mich.

Ann Arbor, Mich.
Lansing, Mich.
Kenosha, Wis.
Ann Arbor, Mich.
Royal Oak, Mich.
Fort Wayne, Ind.
Fremont, Mich.
Traverse City, Mich.
Rogers City, Mich.
Mt. Pleasant, Mich.
Midland, Mich.
Grayling, Mich.
Akron, Ohio.
Bay City, Mich.
Grayling, Mich.
Saginaw, Mich.
Rockford, Mich.
Grand Rapids, Mich.
Grand Rapids, Mich.
Ada, Mich.
Grand Rapids, Mich.
Milwaukee, Wis.

Grand Rapids, Mich.
Grand Rapids, Mich.
Grand Rapids, Mich.
Saginaw, Mich.
Saginaw, Mich.
Tecumseh, Mich.
Tecumseh, Mich.
Tecumseh, Mich.

**BYLAWS OF
TROUT UNLIMITED**

(A Michigan Nonprofit Corporation)

ARTICLE I
Offices

Section 1. Business Offices. Subject to the direction of or change by the Board of Trustees, the principal office of the Corporation shall be located in the vicinity of Washington, D.C. The Corporation may have such other offices as the Board of Trustees may determine, or as the affairs of the Corporation may from time to time require.

Section 2. Registered Office. The Corporation shall have and continuously maintain, in the State of Michigan, a registered office and a registered agent whose office is identical with such registered office.

ARTICLE II
Members and Memberships

Section 1. Qualifications. The conditions of membership, categories of members, procedures for becoming a member and amount and method for payment of dues shall be established by the Corporation from time to time. Members who have become Life Members shall retain membership regardless of any subsequent change in membership categories or conditions. To the extent that the Corporation shall offer family memberships, there shall be one vote per family regardless of the number of persons in the family.

Section 2. Termination of Membership.

- a. Any membership in the Corporation shall terminate for failure to pay dues according to such terms as the Corporation shall establish from time to time.
- b. The Board of Trustees may in its discretion terminate a member from membership for any cause when the membership is deemed by the Board of Trustees to be detrimental to Trout Unlimited. In the event a membership is terminated by the Board of Trustees, such member may be restored to membership by a vote of a majority of members voting at an annual meeting of the Corporation, provided that notice that such matter will be a subject of vote at the annual meeting is given in compliance with these bylaws at least 30 days prior to the annual meeting.
- c. A chapter may dismiss a member from the chapter's membership (not from Trout Unlimited National membership) for cause deemed to be detrimental to Trout Unlimited, by a simple majority vote of the chapter membership at a regularly scheduled meeting of the chapter membership. The dismissal from chapter membership may be appealed by the affected member to the council only or to the Board of Trustees, if there is no council in the state.
- d. A council, by vote of the council members in attendance, may terminate a membership in Trout Unlimited when the council deems the membership of the member in Trout Unlimited to be detrimental to Trout Unlimited. A chapter may also petition its council (or the Board of Trustees if there is no council in the State) to terminate a member's membership in Trout Unlimited.
- e. A member terminated by a chapter and/or council may appeal such an action to the National Board of Trustees, at the member's expense within 45 days from the date of the mailing of the notice of termination.

- f. Any member may resign from membership in the Corporation by mailing or delivering a resignation in writing to the principal office of the Corporation or by such other means as may be specified from time to time by the Corporation.

Section 3. Membership in Chapters and Councils. Whenever a chapter or council is established in a geographic area, pursuant to Article VII, all members in good standing of Trout Unlimited residing within the boundaries of that area shall be automatically assigned to the membership roster(s) of that chapter and/or council and be members thereof. However, any member so assigned to an area chapter and council shall, upon request, be reassigned to any other chapter of choice regardless of location.

ARTICLE III Meetings of the Members

Section 1. Annual Meeting. An Annual Meeting of the members shall be held each year for the purpose of electing trustees and for the transaction of such other business as may come before the meeting. The date, time and place of the Annual Meeting shall be determined by the Board of Trustees.

Section 2. Special Meetings. Special Meetings of the members for any purpose or purposes, unless otherwise prescribed by statute, may be called at any time by the Chief Executive Officer and President, the Board of Trustees, the Executive Committee or by not less than one-tenth of the members of the Corporation having voting rights.

Section 3. Notice of Meetings. It shall be the duty of the Chief Executive Officer and President or the Chief Executive Officer and President's designee to cause a written notice of any Annual or Special Meeting of the members to be sent to each member of record at least forty-five days preceding any such meeting. Such notice shall specify the place, day, hour and purpose of the meeting. The written notice of any meeting shall be deemed to be delivered when (a) deposited in the United States mail addressed to the member's address as it appears on the records of the Corporation with postage thereon prepaid; (b) published in the official periodical of Trout Unlimited; (c) posted on the National Trout Unlimited web site; (d) given by means of electronic communication; or (e) given by any other means permitted by law. In the event any member desires to present any additional matter for a vote at the annual meeting or any special meeting of the members of the Corporation, the member shall so advise the Secretary of the Corporation in writing no later than thirty days prior to the meeting. No matter shall be determined at any meeting of the members, unless it is the subject of a proper notice.

Section 4. Quorum. At any Annual or Special Meeting, those members in good standing who are present in person or represented by proxy shall constitute a quorum for the transaction of business, except as otherwise provided by statute or by these Bylaws.

Section 5. Proxies. At any Annual or Special Meeting of the members, a member entitled to vote thereat may do so by proxy executed in writing by the member or his duly authorized attorney-in-fact, provided that such proxy votes shall only be authorized on those specific questions or proposals which are set forth in the notice sent to the members relative to such meeting. No proxy shall be valid after the close of the Annual or Special meeting for which the proxy was given.

Section 6. Manner of Acting. The Chief Executive Officer and President shall preside at any Annual or Special Meeting of the members, provided that if the Chief Executive Officer and President is absent or otherwise requests, the Chair of the Board of Trustees shall preside and, provided further, that if both the Chief Executive Officer and President and Chair of the Board of Trustees are absent, the Chair of the National Leadership Council ("NLC") shall preside at such meeting. Unless otherwise provided by statute or these Bylaws, votes taken at any Annual or Special Meeting at which a quorum is present may be decided by oral vote, unless a simple majority demands that such vote be by written ballot.

ARTICLE IV
National Leadership Council

Section 1. Purposes. The purposes of the National Leadership Council (“NLC”) are:

- a. National Conservation Agenda. To develop and amend, as needed, the Corporation’s National Conservation Agenda and set priorities among issues included in that agenda. The NLC shall promptly communicate all amendments to the National Conservation Agenda and its conservation priorities to all levels of the organization at the time amendments are made or new priorities established.
- b. Implementation of National Conservation Agenda. To direct the implementation of the National Conservation Agenda in projects that involve all levels of the organization, including the NLC itself, Corporation staff, state councils, local chapters and individual members. Nothing in this sub-paragraph is intended to alter the supervision responsibilities or requirements for Corporation staff members found in other parts of these Bylaws or in the Corporation’s personnel policies.
- c. Organizational Capacity. To plan and help implement national and regional initiatives designed to improve the capacity of the Corporation to fulfill its mission at all levels, assist volunteer leadership, state councils, local chapters, individual members and staff, facilitate communication between the Corporation and the Grassroots members. This area of the NLC’s responsibilities shall include communication with, training and advice to the volunteer leadership of the organization, improving the capacity of state councils and local chapters to fulfill the mission of the Corporation, integrating efforts of volunteer components of the Corporation and the Corporation staff in fulfilling the Corporation’s mission, and recruiting volunteer leaders.

Section 2. National Leadership Council Membership.

- a. Qualifications. The NLC shall be composed of one NLC Representative from each Trout Unlimited state council, an NLC Chair and an NLC secretary. To be eligible to serve as an NLC Representative or officer, an individual must be a member of the Corporation in good standing, must have served in a statewide TU office or a chapter leadership position and must be familiar with coldwater resource and TU organizational issues. NLC Representatives should also have the following qualifications: knowledge of coldwater fisheries issues of concern to their state; knowledge of their state’s council and chapter organizational needs and concerns; proven communication skills; the ability to work effectively with staff and volunteer components of the Corporation; and experience in implementing, directing, or organizing conservation efforts.
- b. States Without Councils. The NLC may from time to time approve representation on the NLC for states or geographic areas without organized councils. The NLC shall develop criteria and procedures for approving such representation and those criteria shall include (but are not necessarily limited to) the presence of a large number of TU members in the state or geographic area or the presence of a large and active chapter in the state or geographic area. No state or geographic area without an organized council may be represented at the NLC until the NLC has approved that state or geographic area for representation and has approved procedures by which that state or geographic area nominates and elects an NLC Representative. Those procedures shall be written and registered with the National Office of the Corporation. If the NLC approves representation from a state or geographic area without a council, the representative from that state or geographic area must have held some elected leadership position in a TU chapter within the state or geographic area. If at any time after approving a state or geographic area without a council for representation on the NLC, the NLC decides that such state or geographic area no longer meets the guidelines and criteria for representation on the NLC, the NLC may vote to eliminate that state’s or geographic area’s representation on the NLC.

- c. Duties. Each NLC Representative shall be responsible for representing his or her state on the NLC and acting as a liaison between the NLC and his or her state and for communicating with the council, chapters and members in his or her state on issues of national concern to the Corporation and on the proceedings of the NLC. Each NLC Representative shall also coordinate with his or her state council and the NLC on implementation of the National Conservation Agenda and the NLC's organizational development efforts.
- d. Nomination and Election. Each state council shall include in its council bylaws procedures for nominating and electing its representative on the NLC. Each council's selection process shall, at a minimum, provide every active chapter with a voice in the selection process. Each state council's procedures and amendments and changes to the procedures shall be reviewed and approved by the NLC, which shall establish a procedure for such review. NLC Representatives shall serve terms determined by the councils, but no NLC Representative shall serve more than five consecutive years on the NLC.
- e. Vacancies. Subject to the foregoing limitations and conditions, each state or geographic area with an NLC Representative shall elect an NLC Representative to fill any vacancy on the NLC created by the death, disability, removal, or resignation of its NLC Representative. Such NLC Representative so elected shall serve for the remainder of the unexpired term of the NLC Representative whom he or she replaces. State councils, or other states or geographic areas with NLC representation, shall promptly notify the National Office of the Corporation of any election pursuant to this paragraph.
- f. Removal. Any NLC Representative who shall be absent from two consecutive meetings of the NLC shall be automatically removed and the state council notified unless such absence is excused by the Secretary of the NLC. The NLC, by two-thirds vote at a regular or Special Meeting, may remove any NLC Representative whenever, in its judgment, the interest of the Corporation would be best served.

Section 3 – National Leadership Council Officers.

- a. Officers. The officers of the NLC shall be the Chair and Secretary of the NLC. Nominees for these positions shall be put forward by the Nominating Committee of the NLC. The nominees shall be selected by the NLC at its Annual Meeting and must receive a majority of the votes of NLC Representatives present at the meeting. If no nominee put forward by the Nominating Committee receives a majority of the votes of NLC Representatives present, or if the Nominating Committee fails to put forward any nominees, the NLC may elect a Chair and/or a Secretary of its own initiative. To be eligible to serve as NLC Chair or Secretary, a person must be a current or former NLC Representative. If a current NLC Representative is elected as Chair or Secretary, the state or other geographic area represented by that person shall elect a replacement to complete his or her term. The NLC Chair and the NLC Secretary shall each serve no more than four consecutive one year terms.
- b. Chair. The Chair of the NLC shall preside at all meetings of the NLC and shall be the chief liaison between the NLC and the Board of Trustees. The NLC Chair shall also be a member of the Board of Trustees, a member of the Executive Committee of the Board of Trustees and Vice Chair of the Board of Trustees. The Chair of the NLC shall have the authority to appoint chairs of NLC committees, who shall be NLC members.
- c. Secretary. The NLC Secretary shall keep the minutes of the NLC in one or more books provided for that purpose; see that all notices are duly given in accordance with these Bylaws or as required by law; log attendance at all NLC meetings; notify state councils and National Staff of NLC actions; and perform such other duties as from time to time may be assigned to the NLC

Secretary by the NLC Chair. The NLC Secretary shall also be a member of the Board of Trustees and the Executive Committee of the Board of Trustees.

- d. Removal. The NLC, by two-thirds vote of its members, may remove any Officer of the NLC whenever, in its judgment, the interest of the Corporation would be served thereby.
- e. Vacancies. If the office of the Chair of the NLC becomes or is vacant for any reason, a successor shall be elected or appointed by the NLC from among qualified members of the NLC to hold office for the unexpired term. If the office of Secretary of the NLC becomes vacant for any reason, a successor shall be appointed by the Chair of the NLC from among qualified members of the NLC to hold office for the unexpired term.

Section 4. Regular Meetings. The NLC shall meet at least twice a year. One of the meetings of the NLC shall be held each year at the same place as and contemporaneously with the Annual Meeting of the Corporation's members. Other regular meetings of the NLC shall be held at a time and place decided by the NLC and may be held by conference call. Notice of such meetings shall be similar to that required for meetings of the Board of Trustees pursuant to Article V section 9. All Trustees shall be invited to attend meetings of the NLC, but shall not be obligated to attend.

Section 5. Special Meetings. A Special Meeting of the NLC may be called by, (a) the Chair of the NLC; or, (b) in the absence of the Chair, by the Chief Executive Officer and President of the Corporation; or (c) upon the request of ten NLC Representatives. Ten days notice of any Special Meeting shall be provided to each NLC Representative and NLC officer and shall state the purpose of the Special Meeting. The Special Meeting shall take place at such time and place as may be set forth in such notice and may be held by conference call.

Section 6. Action Without Meeting. The NLC may act upon written proposals and motions by mail, FAX, or electronic mail after reasonable advance notice when requested by the Chair of the NLC or by the Chief Executive Officer and President of the Corporation. Such written proposals and motions shall, to the extent possible, provide full and complete reports of the issues and the arguments advanced both for and against each proposition. Each NLC Representative or Officer who responds to the request of the Chair of the NLC or the Chief Executive Officer and President of the Corporation by voting by mail, FAX, or electronic mail shall be considered as having been present at a meeting of the NLC for the purpose of determining whether or not a quorum was present.

Section 7. Proxies. Proxy voting shall not be permitted at any meeting of the NLC.

Section 8. Substitute NLC Member. In the event an NLC member is unable to attend the Annual Meeting of the NLC, the NLC Secretary may permit a substitute attendee appointed by the council to attend and vote at the NLC meeting, provided the council gives notice to the NLC Secretary at least 24 hours prior to the meeting.

Section 9. Quorum and Manner of Acting. A majority of the members of the NLC (including NLC Representatives and officers) shall constitute a quorum necessary for the transaction of business at any meeting of the NLC. The act of a majority of the NLC members present at any meeting at which a quorum is present shall be the act of the NLC, unless the act of a greater number is required by statute or by these Bylaws. The Chair of the NLC shall preside at meetings of the NLC. In the Chair's absence, the Secretary of the NLC shall preside. If both shall be absent, the NLC members present shall elect a Chair and a secretary for such meeting.

Section 10. Conflict of Interest. No NLC member shall enter into a contractual relationship with the Corporation unless approved by the NLC and the Board of Trustees.

Section 11. Notices and Meetings of Board of Trustees. All NLC members shall be invited to attend meetings of the Board of Trustees, but shall not be obligated to attend.

Section 12. Committees. The Nominating Committee of the NLC shall nominate individuals to serve as Grassroots Trustees and as NLC officers. The Chair of the NLC shall select and appoint the members of the Nominating Committee of the NLC and may appoint non-NLC members to the nominating committee, so long as 75% of the members of the nominating committee are NLC members. The NLC may create and its Chair shall appoint the members of any committees or working groups, including persons who are not NLC members, that are necessary or desirable to further any of the purposes of the NLC.

Section 13. Policies and Procedures. The NLC may promulgate any policies or procedures which are necessary or desirable to carry out the tasks and functions delegated to it by these Bylaws.

ARTICLE V Board of Trustees

Section 1. Powers. The business, property and those affairs of the Corporation not delegated by these Bylaws to be managed by the NLC shall be managed and controlled by a Board of Trustees.

Section 2. Board Composition. The Board of Trustees shall consist of not more than ten Grassroots Trustees and not more than 22 At-large Trustees. The Chief Executive Officer and President of the Corporation shall be an *ex officio* member of the Board of Trustees. If he or she so desires, the immediate past Chair of the Board of Trustees may serve as a non-voting member of the Board of Trustees for a two year term.

Section 3. Grassroots Trustees. Two of the Grassroots Trustee positions shall be filled by the Chair and Secretary of the NLC. The other eight Grassroots Trustees shall be nominated by the NLC and elected by the membership at the Annual Meeting of the members.

- a. Qualifications. To be eligible to serve as a Grassroots Trustee, a candidate must be a TU member in good standing, must have demonstrated expertise in matters of organizational development, advocacy, budget, finance, risk management, development, or national policy relevant to the goals of the Corporation, or such other expertise or skills relevant to the goals of the Corporation deemed necessary or appropriate by the NLC. Other than the Chair and Secretary of the NLC, no person may simultaneously serve as an NLC Representative and as a Grassroots Trustee.
- b. Nomination. Nominees for Grassroots Trustees may be submitted to the NLC by state councils according to procedures developed by each council. In states without councils, nominees may be submitted by individual chapters. No state council or other state or geographic area with NLC representation shall submit more than one nominee at a time to the NLC. Each state Nominee submitted to the NLC shall be referred to the Nominating Committee of the NLC. The Nominating Committee of the NLC shall then narrow the number of nominees to the number needed to fill the available openings. The NLC shall then vote on the slate of nominees submitted by the NLC Nominating Committee or choose another slate of nominees, including candidates nominated at the NLC meeting, and forward to the Secretary of the Corporation and to the Chief Executive Officer and President the slate of nominees approved by the NLC to be submitted for election by the membership of the Corporation at the Annual Meeting of the Corporation. Additional nominees satisfying the qualifications set forth above may be put forth at the Annual Meeting by any member.

Section 4. At-large Trustees. At-large Trustees shall be nominated by the Nominating Committee of the Board of Trustees, shall be members of the Corporation in good standing, shall have demonstrated

expertise in matters of budget, finance, risk management, development, advocacy, or national policy relevant to the goals of the Corporation, or such other expertise or skills deemed necessary or appropriate by the Nominating Committee of the Board of Trustees and shall be elected by the membership at the Annual Meeting of the members.

Section 5. Election and Terms. Trustees shall serve a term of two years commencing at the beginning of the Corporation's fiscal year following the Annual Meeting of members at which they are elected. Names of nominees for Trustees shall be submitted by the Chair of the Nominating Committee to the Secretary of the Corporation or his or her designee at least 60 days in advance of each Annual Meeting of the members and the names of such nominees shall be included in the notice of such meeting. Election of Trustees shall require the approval of a majority of the members in good standing, present or by proxy, voting at such meeting.

Section 6. Limitation of Terms. No Trustee shall serve more than three two-year terms, except that, upon the recommendation of the Nominating Committee and the approval by a majority of the Board of Trustees, (a) a Trustee who is the Chair, Secretary, or Treasurer of the Board of Trustees may stand for election for such additional terms as shall coincide with that Trustee's terms as an officer as set out in Article VI of these Bylaws and (b) a Trustee who is the Chair of one of the Board of Trustee's standing committees may stand for election for one additional two-year term. No trustee shall serve more than ten consecutive years as a Trustee, except that a Trustee who is the Chair, Secretary, or Treasurer of the Board of Trustees may serve out his or her terms in those positions as provided in Article VI of these Bylaws even if, by doing so, he or she serves more than ten consecutive years as a Trustee. After a break in service of two or more years, an individual may again serve as a Trustee.

Section 7. Vacancies. A vacancy occurring during the term of office of one of the At-large Trustees may be filled by the remaining members of the Board of Trustees upon the recommendation of the Nominating Committee of the Board of Trustees at any meeting of the Board and no election by the general membership is required. A vacancy occurring during the term of office of a Grassroots Trustee may be filled by the NLC upon the recommendation of the Nominating Committee of the NLC at any meeting of the NLC and no election by the general membership is required. A Trustee elected or appointed to fill a vacancy shall serve for the unexpired term of such Trustee's predecessor in office. A Trustee's service for the remainder of the term of a vacant position shall not be considered for the purpose of the limitation of terms provided in Section 5 above.

Section 8. Rights and Responsibilities. All Trustees shall have the same rights and responsibilities.

Section 9. Regular Meetings. Regular meetings of the Board of Trustees shall be held at least twice annually at a time and at a place decided by the Board of Trustees. It shall be the duty of the Chief Executive Officer and President or his or her designee to cause such a written notice of any regular meeting of the Board of Trustees to be delivered to each Trustee and the Legal Advisor at least thirty (30) days preceding any meeting. Such notice shall specify the place, day and hour of meeting. The purpose for which the meeting has been called need not be stated, but when possible, an agenda of the meeting shall be included with such notice. The written notice shall be deemed to be delivered when (a) deposited in the U.S. mail, addressed to such Trustee at his or her address as it appears on the records of the Corporation, with postage thereon prepaid, (b) given by means of electronic communication; or (c) given by any other means permitted by law.

Section 10. Special Meetings. Special Meetings of the Board of Trustees may be called by (a) the Chair of the Board; or (b) in his absence, by the Vice-Chair; or (c) in the absence of both, by the Chief Executive Officer and President; or (d) upon the request of eight Trustees. Notice of the meeting shall be provided at least ten days prior to the Special Meeting and shall specify the purpose of the Special Meeting. The Special Meeting shall take place at such time and place as may be set forth in such notice and may be held by conference call.

Section 11. Action Without Meeting. The Board of Trustees may act upon written proposals and motions by mail, FAX, or electronic communications after reasonable advance notice when requested by the Chair of the Board, the Vice Chair, or the Chief Executive Officer and President. Such written proposals and motions shall, to the extent possible, provide full and complete reports stating the issues and explaining the arguments advanced both for and against each proposition. Each Trustee who responds to the request of the Chair, Vice Chair, or Chief Executive Officer and President for such meeting by voting by mail, FAX, or electronic communication shall be considered as having been present at a meeting of the Board of Trustees for the purpose of determining whether or not a quorum was present.

Section 12. Proxies. Proxy voting shall not be permitted at meetings of the Board of Trustees.

Section 13. Quorum and Manner of Acting. A majority of the Board of Trustees shall constitute a quorum necessary for the transaction of business at any meeting of the Board of Trustees, except that, for the sole purpose of filling vacancies on the Board of Trustees, twenty-five percent of the Board of Trustees shall constitute a quorum. The act of a majority of the Trustees present at any meeting at which a quorum is present shall be the act of the Board of Trustees, unless the act of a greater number is required by statute or by these Bylaws. The Chair of the Board shall preside at meetings of the Board. In the Chair's absence, the Vice Chair shall preside. If both shall be absent, the Trustees present shall elect a Chair for the meeting.

Section 14. Removal. Any Trustee who shall be absent from two consecutive meetings of the Board of Trustees shall be automatically removed unless such absence is excused in advance by the Chair of the Board of Trustees. The Board of Trustees, by two-thirds vote at a regular or Special Meeting, may remove any Trustee whenever, in its judgment, the interest of the Corporation would be served.

Section 15. Executive Committee. The Executive Committee of the Board of Trustees shall be comprised of the Chair, who shall be the Chair of the Executive Committee, the Vice Chair of the Board of Trustees, the Chief Executive Officer and President, the Secretary and the Treasurer of the Board of Trustees, the Secretary of the National Leadership Council, the Corporation's legal advisor and the chairs of each standing committee. The Executive Committee shall meet at least four times per year: biannually during the regular meetings of the Board of Trustees and at such other times and places as may be determined. The Executive Committee shall act in the interim between meetings of the Board of Trustees and shall be responsible for personnel matters. The Executive Committee shall promptly provide a detailed report of all of the actions of the Executive Committee to members of the Board of Trustees.

Section 16. Board Committees. In addition to the Executive Committee, the following shall be the standing Committees of the Board of Trustees: Audit, Compensation, Legal/Risk Management, Development, Budget/Finance, Organizational Development, Marketing and Communications and Nominating. Unless otherwise stated, the Chair shall appoint the chair and membership of each committee.

- a. Nominating Committee. For purposes of constituting the Nominating Committee, the Chair of the Board of Trustees shall appoint the members of the Committee, but, in any event, the Chair of the NLC shall be a member of the Committee. The Nominating Committee shall also be responsible for working with the Chief Executive Officer and President and Chair of the Board of Trustees to create a succession plan for the officers of the Corporation.
- b. Audit Committee. The audit committee shall (a) Select the audit firm to conduct an independent audit of the organization's financial statements; (b) Ensure a direct line of communications with the organization's auditor; (c) Provide oversight of management's performance with respect to required and recommended financial responsibilities and disclosure; (d) Consider and review, with management and the auditors, the adequacy of the organization's risk management methodology and internal controls, including computerized information system controls and

security; (e) Review the adequacy of financial reports provided by the board and make recommendations for their improvement; and (f) Review and address the management letter and auditor's comments.

- c. Legal/Risk Management. The legal/risk management committee shall work with the Board of Trustees, the staff and the volunteers of TU to identify risks that TU may face and to help assure that those risks are adequately managed and insured. The Chair shall be an attorney-at-law, duly licensed to practice law in one or more of the fifty states, a person with experience in risk management or insurance, or a person with comparable experience.
- d. Other Committees. Upon a majority vote of its members, the Board of Trustees may create such other committees as are necessary or desirable to carry on the business and affairs of the Corporation; except that authority to promote and direct the resource initiative planning process, to set the national resource agenda for the Corporation and to facilitate national resource efforts with the National Staff of the Corporation shall rest with the NLC.

Section 17. Legal Advisor. The Board of Trustees shall appoint as its Legal Advisor an attorney-at-law who is duly licensed to practice in one or more of the fifty states and a member in good standing of the Corporation. The Legal Advisor shall assist the Chair of the Legal/Risk Management Committee of the Board of Trustees. The Legal Advisor shall have a voice, but no vote, at meetings of the Board of Trustees and the Executive Committee of the Board of Trustees. On behalf of the Corporation, the Legal Advisor shall yearly respond to the requests of the Corporation's auditors. The Legal Advisor shall serve at the pleasure of the Board of Trustees.

Section 18. Policies and Procedures. The Board of Trustees may promulgate any policies or procedures that are necessary or desirable to carry out the tasks and functions delegated to it by these Bylaws.

Section 19. Trustee Conflicts of Interest. No Trustee shall enter into a contractual relationship with Trout Unlimited for the benefit of the Trustee without approval of the Board of Trustees. Any Trustee entering into such a contract shall make a full disclosure to the Board and may discuss the matter with the Board of Trustees, but shall not be in attendance when the Board votes on such a contract. No contract or other transaction between the Corporation and one or more of its Trustees or any other corporation, firm, association, or entity in which one or more of its Trustees is a director or officer or is financially interested, shall be either void or voidable if:

- a. the fact of such relationship or interest is fully disclosed or known to the Board of Trustees or committee thereof which authorizes, approves, or ratifies the contract or transaction by a vote or consent sufficient for such purpose without counting the votes or consents of such interested Trustees: and
- b. the contract or transaction is fair and reasonable to the Corporation. Interested Trustees may be counted in determining the presence of a quorum at a meeting of the Board of Trustees or committee thereof which authorizes, approves, or ratifies such contract or transaction.

The reimbursement of a Trustee for expenses incurred in attending meetings or other work on behalf of the Corporation shall not be considered a conflict of interest.

ARTICLE VI Executive Officers

Section 1. Executive Officers. The Executive Officers of the Corporation shall be the Chair, the Vice Chair, the Chief Executive Officer and President, the Secretary, the Treasurer, the Chief Financial Officer, the Chief Operating Officer and the Secretary of the NLC. The office of Vice Chair of the Board

of Trustees shall be filled by the Chair of the NLC. Except as provided below, no two Executive Offices may be held by the same person.

Section 2. Eligibility and Term of Office. Except for the office of the Chief Executive Officer and President, Chief Operating Officer and Chief Financial Officer, no person shall be eligible for election as an Executive Officer unless he or she has served on the Board of Trustees or the NLC, or has had continuing and substantive involvement with the Corporation for at least 18 months prior to becoming an Executive Officer. The Chair, Secretary and Treasurer shall be nominated by the Nominating Committee and elected by the Board of Trustees at any meeting called for the purpose of electing officers. The term of each officer shall begin on the first day of the Corporation's fiscal year.

- a. The Chair, Secretary and Treasurer of the Board of Trustees shall hold office for a two-year term and may be elected for a second two-year term.
- b. The NLC Chair and NLC Secretary shall serve terms as Executive Officers co-extensive with their NLC terms.
- c. The Chief Executive Officer and President shall serve consecutive one year terms of office, subject to termination by the Board of Trustees.
- d. With the approval of the Board of Trustees, the Chief Operating Officer and Chief Financial Officer shall be hired by the Chief Executive Officer and President and shall also serve consecutive one year terms of office, subject to termination by the Chief Executive Officer and President.
- e. No contract of employment shall be deemed to result from any appointment or hiring as an Executive Officer.

Section 3. Removal. The Board of Trustees, by two-thirds vote at a regular or Special Meeting, may remove any trustee officer whenever, in its judgment, the interest of the Corporation would be served.

Section 4. Vacancies. If the office of the Chair, the Secretary or the Treasurer of the Corporation is vacant, a successor shall be appointed by the Board of Trustees to fill the remainder of the term of the vacant office.

Section 5. Chief Executive Officer and President. The Chief Executive Officer shall also be the President of the Corporation and shall have responsibility for the general, active management of the business and other affairs of the Corporation. The Board of Trustees shall also establish the reporting obligations of the Chief Executive Officer and President and senior staff. The Chief Executive Officer and President shall also:

- a. Submit written and oral reports of the operations of the Corporation to the members at each Annual Membership Meeting and present matters of interest to the Trustees at each meeting of the Board; be responsible for and attend to the sending of notices of all meetings of the membership and of the Board of Trustees; keep an accurate and current record of all memberships and be the custodian of records and the seal of the Corporation. The Chief Executive Officer and President may delegate the responsibility for sending notices and record keeping.
- b. Actively promote and encourage membership in the Corporation; serve as *ex officio* members of the NLC; assist the Chair of the NLC in acting as liaison between the NLC and the Board of Trustees; assist in the formation of chapters and councils; assist in fundraising; supervise and coordinate the operations and activities of the field offices; and act as the Corporation's

spokespersons or designate another employee to act before any court of law, government or legislative authority, agency, or group, public or private.

- c. Create and update a succession plan for senior staff, for review and approval by the Board of Trustees or a committee constituted for that purpose.
- d. Perform such other duties as assigned by the Board of Trustees.

Subject to Section 2,d of this Article, the Chief Executive Officer and President shall have sole authority to hire and dismiss members of the Corporation's National Staff. The Board of Trustees shall have sole authority to hire and dismiss the Chief Executive Officer and President.

Section 6. Secretary. The Secretary of the Corporation shall also be the Secretary of the Board of Trustees.

Section 7. Treasurer. The Treasurer shall work with the Chief Executive Officer and President and Chief Financial Officer to ensure that all funds and securities of the Corporation are properly safeguarded. The Treasurer, working with the Chief Financial Officer, shall cause to be entered regularly in the books of the Corporation, to be kept for such purpose, full and accurate accounts of monies received and paid on account of the Corporation and, whenever required by the Board of Trustees, shall render a statement of the Corporation's accounts. The Treasurer shall ensure that, at all reasonable times, the Corporation's books, records and the accounts are available for exhibit. The Treasurer shall perform generally all the duties appertaining to the office of Treasurer and such other duties as from time to time may be assigned to the Treasurer by the Board of Trustees.

Section 8. Chair of the Board of Trustees. The Chair shall be the chair of the Executive Committee and shall preside at all meetings of the Board of Trustees. The Chair shall appoint the members of all Committees of the Board of Trustees other than the Executive Committee. The Chair shall generally supervise and direct all other officers of the Corporation and shall require that their duties are properly performed.

Section 9. Vice Chair of the Board of Trustees. The Vice Chair (which office shall be filled by the Chair of the NLC) shall, in the absence, death, inability to or refusal to act of the Chair of the Board of Trustees, perform the duties of the Chair of the Board of Trustees and, when so acting, shall have all the powers of and be subject to all of the restrictions upon the Chair of the Board of Trustees. The Vice Chair of the Board of Trustees also shall serve as chief liaison between the NLC and the Board of Trustees.

Section 10. Chief Operating Officer. The Chief Operating Officer shall report to the Chief Executive officer and President of the Corporation and shall have such general management responsibilities as the Chief Executive Officer and President and the Board of Trustees shall designate.

Section 11. Chief Financial Officer. The Chief Financial Officer shall report to the Chief Executive officer and President and shall be the principal advisor to the Corporation in all matters pertaining to the Corporation's funds and financial policies. Working with the Treasurer and the Finance Committee, the Chief Financial Officer shall be responsible for the management of the Corporation's financial operations and the formulation and issuance of financial and accounting policies and procedures and internal controls for financial matters, including check signing authority. The Chief Financial Officer shall perform such other duties and exercise such other powers as are commonly incidental to the office of the Chief Financial Officer, including the development, maintenance and operation of all financial management systems, budgetary systems, accounting systems, internal control systems, financial reporting systems and credit, cash and debt management systems. The Chief Financial Officer shall have authority on behalf of the Corporation to sign or endorse checks and other obligations, collect all monies due the Corporation and deposit same for the account of the Corporation with approved depositories, and sign all checks and

drafts made by the Corporation for authorized disbursements. The Chief Financial Officer shall be responsible for the supervision and coordination of the staff of the Corporation with respect to the functions under the direction of such officer.

Section 12. Contracting Authority. The CEO and President or, if he or she shall so designate, the Chief Financial Officer, shall have the authority to sign and execute in the name of the Corporation all contracts, agreements, or other written instruments that are required to accept grants and/or donations to the Corporation or to authorize expenditures pursuant to donor and/or grant agreements with any government agency, commission, or entity. The Board of Trustees shall establish policies concerning the additional authority of the officers of the Corporation and senior staff to execute contracts on behalf of the Corporation.

ARTICLE VII Chapters and Councils

Section 1. Chapters.

- a. Whenever a group of members in good standing, residing in a local area or otherwise, wishes to form a chapter, they shall comply with the procedures prescribed by the Board of Trustees and upon application to the Board of Trustees may be issued a Charter designating them a chapter of the Corporation. Each chapter shall elect officers and directors and may finance its operations so long as such activities are consistent with the Articles of Incorporation, Bylaws, purposes and policies of the Corporation. All chapters shall adopt and maintain bylaws that are consistent with the Articles and Bylaws of the Corporation, the state council, if any, and the mandatory provisions of the model bylaws promulgated by the Board of Trustees and the NLC.
- b. A current list of the names and addresses and email addresses of each officer and director of the chapter shall be maintained in the files of the principal office of the Corporation. All chapter officers must be members of Trout Unlimited.
- c. The Board of Trustees of Trout Unlimited may suspend or revoke a Charter for cause, including, but not limited to:
 1. Failure to:
 - (a) Timely file financial reports and required IRS forms (currently form 990);
 - (b) Comply with the Corporation's policies on lobbying, litigation and liquor liability;
 - (c) Comply with applicable state or local law;
 2. Engaging or participating in partisan political campaigns;
 3. Making contributions to political candidates;
 4. Unauthorized use of the TU logo, trademarks or trade names; or
 5. Deviating from the mission or policies of the Corporation.
- d. All members of chapters must be members in good standing of Trout Unlimited. The suspension or revocation of a chapter's Charter shall not affect the membership status of the members of such chapter as long as such members continue to pay dues to Trout Unlimited. Applications for

Charters and other requirements shall be determined and promulgated by the Board of Trustees of the Corporation.

- e. The Corporation shall create the requirements for all chapters and all chapters shall observe such requirements, including the timely filing of financial reports in the form and manner prescribed by the Corporation. chapters shall not assess separate dues or establish separate levels of membership.

Section 2. Councils.

- a. The Board of Trustees may charter a council within a state or other geographic area having more than one chapter in order to coordinate the activities of the chapters in such area and otherwise assist such chapters in their efforts to carry out the policies and objectives of Trout Unlimited. Organization of a council shall normally be initiated upon the request of the chapters of the area. The Board of Trustees may also charter a council in a single chapter area where adequate reasons exist for doing so. The Corporation shall from time to time create the requirements for all councils and all councils shall observe such requirements, including the timely filing of financial reports in the form and manner prescribed by the Corporation.
- b. Applications for the formation of a council and other requirements shall be determined by the Board of Trustees. The Board of Trustees shall approve the formation of a council when, in the opinion of the Trustees, such a coordinating unit will facilitate the usefulness and effectiveness of Trout Unlimited.
- c. Members of the initial governing board of a newly formed council shall be appointed by the Board of Trustees of Trout Unlimited based on the recommendations of the chapters in the council area. Each original council officer and director will serve for a period of not less than one year and not more than eighteen months from the date of formation of the council, unless and until the council shall have established its own bylaws providing for a different term. All council officers shall be members of Trout Unlimited.
- d. The proposed council shall submit draft Bylaws to the principal office of the Corporation for approval by the Executive Committee or the Board of Trustees of Trout Unlimited. The Bylaws adopted by the council and any amendments thereafter shall be consistent with the Articles of Incorporation and Bylaws of Trout Unlimited and such Bylaws shall also include provisions consistent with the Corporation's model council bylaws.
- e. A council may be terminated or suspended for due cause by action of the Board of Trustees of Trout Unlimited. The termination or suspension shall not, in itself, affect the status of the chapters or the membership status of members within such council area.
- f. Whenever a council is established in a state or multi-state region, every chapter within its geographic boundaries shall be a member chapter of that council and shall be subject to the council's bylaws and policies.

ARTICLE VIII Mergers

The Board of Trustees of the Corporation may adopt and implement a plan of merger or other form of acquisition with any organization whose goals, purposes and principles are substantially similar to those of the Corporation, provided that such plan of merger or form of acquisition shall incorporate the following minimum requirements in addition to such other requirements as are necessary and appropriate to accomplish the Corporation's purposes:

- a. The name of the surviving entity shall be “Trout Unlimited,” and the members of the entity being merged into the Corporation or otherwise acquired shall become members of Trout Unlimited.
- b. The governing body of the entity being merged into the Corporation or otherwise acquired shall have adopted a resolution agreeing to the merger on the terms and conditions set forth in the plan of merger.
- c. The merger or other form of acquisition shall not jeopardize the Corporation’s qualification as a non-profit corporation organized for scientific, educational and charitable purposes or the Corporation’s tax-free status as exempt from income taxation under Section 501(c)(3) of the Internal Revenue Code. Transfer of the funds and other assets of the entity being merged into the Corporation, as agreed to by the governing body of such entity, shall be in accordance with written terms and conditions in the merger agreement and shall be accompanied by such releases, warranties and indemnities as are necessary to protect the corporation’s interest.

ARTICLE IX
Limited Liability and Indemnification

Section 1. Limited Liability of Trustees and Officers. As provided in the Michigan Non-Profit Corporation Act and subject to the limitations set forth therein, including any requirement that the Corporation remain exempt from taxation under the Internal Revenue Code, Trustees, NLC Officers, Officers, the Corporate General Counsel and Legal Advisor who serve without compensation or with nominal compensation shall not be liable for damages resulting from the exercise of judgment or discretion in connection with their duties or responsibilities unless the act or omission involved willful or wanton conduct.

Section 2. Indemnification. With respect to claims or liabilities arising out of service as a Trustee, Officer, NLC Officer or Legal Advisor, the Corporation shall indemnify and advance expenses to each present and future Trustee, Officer, NLC Officer, Corporate General Counsel and Legal Advisor (and his or her estate, heirs and personal representatives) to the fullest extent allowed by the laws of the State of Michigan, both as now in effect and as hereafter adopted or amended.

Without limiting the foregoing, the Corporation shall indemnify a Trustee, Officer, NLC Officer, Corporate General Counsel, Legal Advisor, employee or agent who was or is a party or is threatened to be made a party to a threatened, pending, or completed action, suit, or proceeding, whether civil, criminal, administrative, or investigative and whether formal or informal, other than an action by or in the right of the Corporation, by reason of the fact that he or she is or was a Trustee, Officer or NLC Officer, Corporate General Counsel, Legal Advisor, employee or agent of the Corporation, against expenses, including attorneys' fees, judgments, penalties, fines and amounts paid in settlement actually and reasonably incurred in connection with the action, suit, or proceeding, if the person to be indemnified acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the best interests of the Corporation and with respect to any criminal action or proceeding, if he or she had no reasonable cause to believe the conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of *nolo contendere* or its equivalent, does not, of itself, create a presumption that he or she did not act in good faith and in a manner which he or she reasonably believed to be in or not opposed to the best interests of the Corporation and, with respect to any criminal action or proceeding, had reasonable cause to believe that the conduct was unlawful.

The corporation may further indemnify a person affiliated with Trout Unlimited who is not a Trustee, Officer or NLC Officer, to the extent authorized by resolution of the Board of Trustees.

Section 3. Procedure. An indemnification under this Article, unless ordered by a court, shall be made by the Corporation only as authorized in the specific case upon a determination that indemnification is proper in the circumstances because the applicable standard of conduct has been met. This determination shall be made in any of the following ways: (a) by a majority vote of a quorum of the Board of Trustees consisting of Trustees who were not parties to the action, suit, or proceeding; (b) if the quorum described in subdivision (a) is not obtainable, then by a majority vote of a committee of at least three disinterested Trustees; or (c) by independent legal counsel in a written opinion.

Section 4 Expenses. Expenses incurred in defending a civil or criminal action, suit, or proceeding described in this Article shall be paid by the Corporation in advance of the final disposition of the action, suit, or proceeding upon receipt of any undertaking by or on behalf of the person being indemnified to repay the expenses if it is ultimately determined that he or she is not entitled to be indemnified by the Corporation. The undertaking shall be by unlimited general obligation of the person on whose behalf advances are made but need not be secured. "Expenses" as used in this Article mean attorney fees actually and reasonably incurred, judgments, settlements, fines and other amounts actually and reasonably incurred in good faith in connection with any such action, suit, or proceeding.

Section 5. Settlement. If a person is entitled to indemnification under this Article for a portion of expenses including attorneys' fees, judgments, penalties, fines and amounts paid in settlement, but not for the total amount thereof, the Corporation shall indemnify the portion of the expenses, judgments, penalties, fines, or amounts paid in settlement for which the person is entitled to be indemnified.

Section 6. Non-Exclusivity. The indemnification or advancement of expenses provided under this Article is not exclusive of other rights to which a person seeking indemnification or advancement of expenses may be entitled under the Articles of Incorporation, or Bylaws of the Corporation, or a contractual agreement of the Corporation. However, the total amount of expenses advanced or indemnified from all sources combined shall not exceed the amount of actual expenses incurred by the person seeking indemnification or advancement of expenses. The indemnification provided for in this Article continues as to a person who ceases to be a Trustee, Officer, employee, or agent and shall inure to the benefit of the heirs, executors and administrators of the person.

Section 7. Insurance. The Corporation shall have the power to purchase and maintain insurance on behalf of any person who is or was a Trustee, Officer, NLC Officer, council Officer, chapter Officer, Corporate General Counsel, Legal Advisor, employee or agent of the Corporation or volunteer for the Corporation against any liability asserted against the person and incurred by the person in any such capacity or arising out of the person's status as such, whether or not the Corporation would have the power to indemnify the person against such liability under the provisions of the Michigan Non-Profit Corporation Act.

ARTICLE X
Corporate Seal

The corporate seal of this Corporation shall be a circular device within which shall be the word "Seal" surrounded by the words, "Trout Unlimited."

ARTICLE XI
Rules of Order

At all times when the organization as a whole or any part thereof, including meetings of the Board of Trustees, the Executive Committee, the NLC or any committees of the Board of Trustees or the NLC, are duly and formally convened for the purpose of deliberation and transaction of business, *Robert's Rules of Order, Newly Revised* shall govern the meetings on all matters relating to order and procedure, including nominations and elections.

ARTICLE XII
Amendments

The Bylaws of this Corporation may be added to, amended, or repealed and replaced in whole or in part by a majority vote of the members in good standing who attend or vote by proxy at any regular or Special Meeting. Written notice of the intention to add to, or amend, or repeal the Bylaws, in whole or in part must be given each member of record at least 30 days preceding such meeting of the members.

ARTICLE XIII
Dissolution

The property owned by this organization is irrevocably dedicated to charitable purposes within the meaning of section 501 (c)(3) of the Internal Revenue Code. Upon the dissolution of the Corporation or the winding up of its affairs, the assets of the Corporation remaining after payment, or provision for payment, of all debts and liabilities shall be distributed exclusively to one or more charitable, religious, scientific, testing for public safety, literary, or educational organizations which would then qualify under the provisions of Section 501(c)(3) of the Internal Revenue Code and its Regulations as they now exist or as they may be hereafter amended, or to the federal government, or to a state or local government, for a public purpose.

Initially Adopted September, 17, 2010

Amended September 19, 2015

/s/ Mark Gates_____

Secretary of Trout Unlimited

STUDY AREA MAP

The maps below show the four proposed study areas located in Grand County.

